

94-2
94. In 8/4: EL2/3
92
✓
94th Congress }
2d Session }

COMMITTEE PRINT

found 015 H502-35 pg 301 1976

ELECTRIC UTILITY RATE REFORM
AND REGULATORY IMPROVEMENT

COMPILATION OF STATEMENTS OF
WITNESSES BEFORE THE
SUBCOMMITTEE ON ENERGY AND POWER
MARCH/APRIL 1976

Compiled by the Staff for the Use of the
SUBCOMMITTEE ON ENERGY AND POWER

OF THE

COMMITTEE ON INTERSTATE AND
FOREIGN COMMERCE
U.S. HOUSE OF REPRESENTATIVES



APRIL 1976

ELECTRIC UTILITY RATE REFORM AND REGULATORY IMPROVEMENT

COMPILATION OF STATEMENTS OF
WITNESSES BEFORE THE
SUBCOMMITTEE ON ENERGY AND POWER
MARCH/APRIL 1976

Compiled by the Staff for the Use of the
SUBCOMMITTEE ON ENERGY AND POWER

OF THE

COMMITTEE ON INTERSTATE AND
FOREIGN COMMERCE

U.S. HOUSE OF REPRESENTATIVES



APRIL 1976

U.S. GOVERNMENT PRINTING OFFICE

APRIL 5, 1976

Statements of:	Page
Panel on Wheeling and Joint Use of Generation and Transmission Facilities	655
Paulann M. Caplovitz	657
Richard F. Walker	679
Charles F. Wheatley, Jr.	687
Hugh A. Wells	695
Charles W. Lines	699
Hon. Christopher J. Dodd	705
Panel on Wholesale Rate Regulation	713
William W. Harsch	715
Thomas M. Debevoise	725
Alex Radin	751
Robert D. Partridge	765
Dr. William W. Lindsay	773
Richard L. Olson	791
Robert E. Grimshaw	839
Panel on Consumer Representation Before the FPC and State Agencies	855
William W. Harsch	857
John T. Schell	865
George D. Rives	877
Robert W. Perdue	921

APRIL 7, 1976

Statements of:	
William G. Rosenberg	931
Robert I. Hanfling	953
Dr. Alfred E. Kahn	969
Panel on Utility Financing	981
Irwin M. Stelzer	983
Shearon Harris	1005
Leslie Livingstone (charts)	1027
John F. Childs	1029
Jerome E. Hass	1037
Panel on Construction Work in Progress	1049
Commissioner C. Luther Heckman	1051
Richard Morgan	1057
Richard Walker	1061
Lorin H. Drennan, Jr.	1099

APRIL 8, 1976

Statements of:	
Panel on Planning and Siting	1111
Marc Messing	1113
Richard Maullin	1123
Frederick W. Mielke, Jr. (offered by Malcolm McKillop)	1133
Walter J. Matthews	1151
James E. Just	1155
Hon. Richard L. Dunham	1161
Roger D. Feldman	1199

APRIL 9, 1976

Statements of:	Page
Hon. Michael J. Harrington.....	1227
Panel on Onsite Generation and Cogeneration.....	1231
Harvey A. Campbell.....	1233
Edward A. Myers, Jr.....	1253
Jack B. Owens.....	1295
Gordon Culp.....	1313
Hon. Floyd J. Fithian.....	1327
Commissioner David Sweet.....	1333
Louis J. Carter.....	1349
Panel of Industrial Consumers.....	1357
Robert E. Burt.....	1359
David E. Leibson.....	1369
Roy N. Leidner.....	1379
Richard B. Pool.....	1391
Charles Ross.....	1399
Panel of Consumer Advocates.....	1409
Robert V. Grahm.....	1411
Fred M. Dusenbury.....	1417
Dr. Marvin Resnikoff.....	1423
Bruce A. Frederickson.....	1427
Material submitted for the record.....	1437
Statements of:	
Hon. John J. McFall.....	1439
Hon. Fernand J. St Germain.....	1449
Hon. Frank Thompson, Jr.....	1453
Comments of Georgia Power Co.....	1455
Statement of the National Oil Jobbers Council.....	1519
Hunton and Williams' Memorandum on Antitrust Aspects of H.R. 12461.....	1525

MARCH 30, 1970: GENERAL WITNESSES

STATEMENTS OF: LEONARD WOODCOCK, RON LEE C WHITE, AL-
BERTA SLAVIN, COMMISSIONER KELLY, COMMISSIONER BRAD-
FORD, W. DONHAM CRAWFORD, AND RONALD E. WISHART

Statement
of
Leonard Woodcock, President
United Automobile, Aerospace and Agricultural Implement
Workers of America (UAW)
before the
Subcommittee on Energy and Power
of the
House Committee on Interstate and Foreign Commerce
on
Electric Utility Rate Reform

March 30, 1976

My name is Leonard Woodcock. I am President of the International Union, United Automobile, Aerospace and Agricultural Implement Workers of America, UAW. We represent 1,415,000 UAW members.

I am happy to be here today to express support for and to suggest modifications in H. R. 12461, the Electric Utility Rate Reform and Regulatory Improvement bill, introduced by Representative John Dingell and others.

For all too long our national policy in the field of utility regulation has been no policy at all -- but rather a practice of leaving the question almost entirely to the states. This bill provides the basis for an appropriate combination of federal and state action. There are some advantages to state regulation, in that it can sometimes be more responsive to local needs and conditions than a system of national regulation. The patchwork system that results, however, has at least three very serious disadvantages.

First, it provides inadequate recognition of the overriding national need for conservation of our energy and capital resources.

Our energy supplies are, on the whole, national supplies, and in most cases a state cannot retain within its own borders the energy it may save by consuming less electricity. Furthermore efforts, by individual states, to control energy use may result in restrictions that appear onerous or unfair as compared with other states which are less responsive to the problem. As a result, we cannot expect the actions of state governments to reflect automatically the national need for energy conservation. Indeed, vigorous interstate competition for business may encourage the individual states to engage in utility pricing practices that squander energy rather than conserve it.

Second, the system of purely-state regulation often provides inadequate protection for consumers. There is no mechanism to assure that desirable policies, such as those already used in various states, will be applied generally. Some regulatory agencies are weak or caught up in antiquated practices, while some others have been effectively captured by the utility interests they are expected to control.

Third, the system either ignores the planning process or decentralizes that process so far that the decisions made about power generation -- its location and its technology -- cannot reflect the best national approach to economic efficiency, energy conservation, and environmental protection.

The Dingell bill is an excellent vehicle for correcting these imbalances in the present system without losing the advantages of a decentralized system.

The bill does not replace state regulation with federal regulation. Its main thrust, rather, is to provide sensible national standards for a system of state regulation.

We support the bill because we see it doing four things: aiding the effort to hold down the cost of electricity, stimulating marginal cost pricing to conserve energy, ending the abuses -- actual and potential -- in automatic fuel adjustment clauses, and creating a mechanism for more rational planning. Let me discuss each of these areas in turn.

Holding Down the Cost of Electricity

The bill proposes a number of important steps to control the spiralling cost of electricity. It would make it easier for consumers to regulate their own uses of electricity by requiring that they be provided periodically with information on the levels they are consuming and the rates they are paying. It would encourage consumer intervention in rate cases. It would provide federal grants to help the states strengthen their own regulatory agencies. It would create an Office of Public Counsel to represent consumer interests before the Federal Power Commission. It would prevent large investor-owned utilities from discriminating against cooperatives and municipally-owned utilities in providing power and transmission facilities. It would guarantee each consumer a subsistence quantity of electricity at the utility's lowest current rate for any category of user.

The bill would also end the practice that most infuriates consumers and symbolizes the arrogance of many investor-owned utilities. All too often the only power company in town engages in self-serving, promotional advertising, and then passes on its costs to the helpless rate-payers, who have no choice but to buy electricity from that company. We have even known utilities to spend large amounts of money on newspaper ads explaining why they think they need a rate increase! The Dingell bill makes an excellent distinction between the kinds of advertising costs that could be passed on -- like information on how to conserve energy -- and those that should not.

Marginal Pricing

If this country is to face the future with confidence, it must develop ways of conserving its energy resources -- both the basic fuels and the capital needed to generate and transmit energy. Unfortunately, our traditions in electric utility pricing have not served as well in this regard. Utilities have tended to recover their average costs, including capital costs, on their basic sales to residences and business. They have then gone on to charge much lower rates for additional quantities sold to high-volume users -- rates that were high enough to cover the additional fuel costs plus a tidy profit, but low enough to stimulate additional sales. For example, Michigan

utilities used this "declining block" pricing system as recently as three years ago. Typically, these low marginal prices helped stimulate the growth of demand to the point at which new generating facilities had to be planned and built. Again the capital costs of these facilities were absorbed not by the large companies whose demand did so much to create the need but primarily by residential and business users of basic amounts of electricity.

While some states have moved to establish a single electricity rate for business users, this ameliorates but does not eliminate the problem. The single rate is sometimes kept low enough to preclude exorbitant profits by the utility. But the heavy capital costs of expanding the system are still spread over all users, whether or not their use is creating the pressures that are causing the system to expand.

The Electric Utility Rate Reform bill would reverse these practices. It would require that rate structures be revised to reflect the underlying costs of production. The objective, as I understand it, is that marginal users of electricity should pay the full marginal cost of supplying electricity, including a prorated share of the cost of providing new capital equipment. This would end any artificial overstimulation of demand. It would ensure that additional amounts of electricity are not being used by customers who value it at less than the real costs of generating and distributing those additional amounts.

There are additional gains for consumers in the bill's provisions for price variations by time of day and by time of year. At present a utility may decide to expand its generating capacity to prevent the possibility of blackouts or brownouts at a particular time of peak use -- like 4:00 p.m. on a weekday in August, when air conditioners may be operating at full blast. The costs of the expansion are then shared by all the ratepayers, whether or not they have air conditioners, indeed whether or not they use any electricity at all at that hour. Peak-load pricing seems to us to be an excellent approach. It can help reduce the pressures for expanding the system to meet peak-time demand, and it can place the costs of system expansion on those users who are creating the need for expansion.

There are some questions about these pricing practices that will have to be resolved as the country moves to accept this eminently sensible approach. First, as the bill acknowledges in Section 201, there are at least three different possible definitions of marginal cost, depending on whether we are thinking of (a) increasing use by existing customers within existing generating capacity, (b) increasing the number of customers, or (c) adding to the generating capacity of the system. Serious thought will have to be given as to which definition of marginal cost will be applied to a particular level of use by a particular kind of customer.

Second, there are many different ways in which peak-load pricing could be put into effect. The bill specifies that the state regulatory

agencies are to consider peak-load pricing or other possible load management devices. That is not sufficient; as they seek to implement this and other provisions of this bill, the state agencies should be provided with some carefully thought-out models of how these important concepts might actually be implemented.

Third, we must be clear that marginal cost pricing is designed to do only one thing -- to encourage efficiency and conservation by allocating the full costs of additional electricity to marginal uses. This approach by itself would do nothing to advance another central goal of utility regulation -- the control of the exorbitant profits that an unregulated natural monopoly might extract from the economy. A single policy instrument -- in this case, a single price -- cannot perform two functions. It cannot achieve both efficiency in the use of the product and equity in the level of profits. The bill clearly addresses itself to this problem with respect to residential users. It requires that the utility offer special "lifeline" rates to residential customers. The utility must offer a rate no higher than its lowest available rate to other users (for the particular time of use) on that "subsistence quantity" of electricity that a resident normally requires for lighting, food refrigeration, and possibly other basic uses. Thus, the low lifeline rate

can be used to control profits and assure that residents will be able to afford a basic quantity of electricity. The higher marginal rate can be used to hold down the quantity of electricity demanded.

I would like to suggest that a similar concept could also be applied to business customers. If every business paid the same rate on every level of electricity used, the rate would either be too low to conserve energy or too high to control utility profits. Of course, it would not be possible to provide each corporation with the same "subsistence quantity" of electricity at low rates, because that would mean giving no more cheap electricity to General Motors than to the corner drugstore. It might be, however, that a "subsistence quantity" for a company could be calculated using a formula based on the number of employees (in full-time equivalents) who normally work in its plants. Rates on this quantity of electricity could be held down to help regulate utility profits, while rates on additional quantities could be pegged high enough to reflect full marginal costs. Another possibility is that utility profits could be adequately controlled through the system of multiple prices implied by peak-load pricing. Either way, the states should be provided with working and self-consistent models of how the provisions of this bill can be implemented.

Fuel Adjustment Clauses

One of our greatest concerns with the present system of regulation is the creation of the automatic fuel adjustment clause. In the state of Michigan, more than half the recent increases in utility costs have resulted from the automatic passing on of fuel cost increases rather than from specific actions of the state Public Service Commission.

We recognize that the costs of oil, coal and natural gas have been rising rapidly over the past three years, and we agree in principle that the utilities should be able to pass on to their customers the cost increases that result from this general fuel inflation. But allowing a utility to pass on 100 percent of its own cost increase opens the system to a number of abuses. First of all, there are no incentives for the utility to shop around -- to try to buy coal from the cheapest supplier rather than the most expensive -- and there are no incentives for the utility to control its own costs of producing or transporting fuel. Second, failure to closely scrutinize the automatic adjustments opens the door to abuses in reporting and to double-counting. Third, many utilities have created wholly-owned subsidiaries to provide them with fuel -- raising the danger that the utility may evade regulations on its own profits by paying artificially-high prices to a subsidiary whose profits are not regulated. We applaud the fact that H.R. 12461 addresses itself to all these possible abuses.

We agree completely that if we continue to let utilities automatically pass on their actual costs of fuel acquisition, then further controls -- of the sort contained in Section 305 -- must be established. We must forbid the automatic passing on of the costs of fuels that are purchased from a person or organization controlled by the utility itself. We must not permit the automatic pass-on of a full 100 percent of the costs, since this provides no incentive to control costs. Regulatory agencies must have the power -- and the administrative capability -- to audit the fuel acquisition practices of the utilities. And they must have the power -- in the words of the bill -- to direct a utility "to cease any fuel acquisition practice which is unreasonably discriminatory or anticompetitive in nature," or "which does not lead to the use of fuel at the lowest possible cost."

There is another alternative, however, that should be considered, especially in the context of proposed national legislation in this area. The federal government, through an agency such as the FPC or the FEA, could play a useful role for state regulatory agencies by providing official estimates of cost increases for each category of fuel in the major regional markets of the country. These estimates would be based on averages of all arms-length fuel transactions in a region rather than on the fuel purchases of a particular utility or group of utilities.

A state regulatory agency might use such estimates in the following way. It might say to the utility, "Last year, you used \$1 worth of coal and \$2 worth of fuel oil in producing a hundred kilowatt-hours of electricity. This year, the price in our region of coal has gone up 5 percent, and the price of oil has gone up 3 percent. Therefore you can automatically add 11 cents to the price of a hundred kilowatt-hours -- 5 cents to reflect the increased price of coal and 6 cents to reflect the increased price of fuel oil. We don't care how much your wholly-owned subsidiary has jacked up the price for coal, or how much your inefficient supplier is actually charging you for oil. You can pass on 11 cents and 11 cents only."

My own guess is that this approach would bring about a great deal of spontaneous improvement in the way utilities obtain their fuel. They would cut back drastically on their construction of unnecessary fuel-related facilities and they would suddenly remember how to bargain with their fuel suppliers. Some provision would, of course, have to be made for fuel that is obtained under long-term contracts.

This approach -- rather than more minute regulation -- may or may not be the answer to the problem of fuel adjustment clauses, but we think it bears consideration. What is certain is that the interests of American consumers require a change in the existing practices.

Mechanisms for More Rational Planning

We believe that the United States has reached the point at which it must face up to the need to inject more systematic planning processes into our economic life. Nowhere is the need more obvious than in the field of energy, and the Dingell bill proposes two important steps in that direction.

First of all, it increases the ability of the Federal Power Commission to assure the reliability and continuity of service -- including the ability to order corrections of deficiencies in a system's generating or transmission capacity and the ability to require increased pooling of generating and transmission facilities.

Secondly, it establishes area planning councils to review and to harmonize the long-range construction plans of the several utilities within a region. This is important, since the critical issues in utility construction -- land use, environmental protection, choice of technology, and needed level of capacity -- cannot be answered best within the confines of a single state or service area.

We would go one step further. Somewhere in the system -- at the state, regional or federal level -- a regulatory agency should have the clear ability to veto or to force revision of plans for a facility that is not needed. We are concerned that America must have adequate generating capacity to meet its future needs. But we are also concerned that utilities be denied

the ability -- one they now seem to enjoy in many states -- to plan and construct a facility solely on their own initiative and then to present that facility to the regulatory agency for automatic inclusion in the rate base.

Conclusions

This bill would develop a role for the federal government as a catalyst for new ideas in the field of utility regulation.

One aspect of this role is developed further in Section 310, which authorizes an FPC study of means to foster increased competition in the electric utility industry. We share in the interest in seeing how far modern technology and ideas can take us from the notion that one and only one utility must generate and transmit all of the power in a given service area. We doubt, however, that the introduction of increased competition will eliminate the need for rate regulation. We doubt that enough producers and transmitters can be added to prevent the tendency of a few firms to organize together to raise prices and to extract monopolistic profits.

As a result, we must also seek better ways to regulate public utilities. Present methods create too many incentives to expand the capital base of the utility and too few incentives to control costs. Perhaps more could be done to develop rate formulas for utility regulation, analogous to

our suggestion for handling the inflation in fuel prices. Utilities would be allowed to charge rates based not on their actual costs but on some reasonable expectation as to what their costs should be. This concept is much harder to apply to general rate regulation than it is to a single area like inflation in fuel costs, but we think it merits further study and experimentation. The Electric Utility Ratemaking Office, which would be established in FEA by Section 207, could become an important focus to develop such new approaches.

As a final thought, I suggest that your committee develop a bill that would apply the same concepts as this one to the field of state regulation of gas utilities. The problems are not identical, but many of the same approaches could undoubtedly be carried over. We would expect similar benefits for the joint goals of consumer protection and energy conservation.

opeiu42

TESTIMONY OF LEE C. WHITE
CHAIRMAN OF THE ENERGY POLICY TASK FORCE
OF CONSUMER FEDERATION OF AMERICA
Before the
HOUSE SUBCOMMITTEE ON ENERGY AND POWER
ON ELECTRIC UTILITY RATES AND REGULATORY IMPROVEMENT

Washington, D. C.
March 30, 1976

My name is Lee C. White, and I am here today in my capacity as Chairman of the Energy Policy Task Force of the Consumer Federation of America. Our Task Force has 30 member organizations (Attachment A), and our expressed purpose is to ensure that the consumers' views are included and considered in the energy policy debates currently taking place, and, in particular, within the Congress. We recognize that there is no necessary single "consumer interest" in any of the numerous issues that comprise the energy policy debates; nevertheless, we have undertaken to do the best job possible in assessing and stating the views of the consuming public and, as the broad base of our membership suggests, we do indirectly represent millions of Americans.

There can be little doubt about the need for a searching examination of the electric utility industry and the problems it is experiencing at this time. The Subcommittee is to be commended for initiating a review of the industry with particular emphasis on rates and on the problems faced by regulatory agencies. The sharp increases in electric rates that have occurred in the past two years have had a dramatic impact on the consciousness of Americans about the problems of the industry in meeting national needs and in doing so in a manner that will provide maximum protection to consumers.

I believe it is important that all interest groups with something to say about the rate problem and the proposed solutions start with recognition of the fact that consumers understand in a general way that there have been fundamental changes in our fuel and energy picture in this country and that each of us is going to have to pay more for our electric energy than was true only a very short time ago. Having said that, there undoubtedly is plenty of room for debate, discussion, and disagreement. Consumer protection in an industry which, at the distribution level, is monopolistic by nature and by law must remain a prime objective. Congress, as the policy-making mechanism in our society, is going to have to become very informed on the many facets of the electric utility industry and to make some tough determinations.

During the lifetime of the electric utility industry, until the recent past, electric rates have either declined or remained nearly stable. In that kind of a situation, it is understandable that there

would be less public concern about the problems of rates, rate design, reliability, construction schedules, and growth policy. The past decade has seen a sharply increased concern about the environment and this, too, has added a very difficult dimension to the entire business of generating, transmitting, and distributing electric energy to the homes and industries of this country.

During the years I have been involved in or observing the electric utility industry, there has never been anything like the intense interest that exists today. It is very nearly inconceivable to old hands that a hearing in Annapolis by the Maryland Legislature on electric rates design could bring out 500 people. Ad hoc groups have sprung up around the country to protest rate increases and, as the former Chairman of the Consumer Affairs Advisory Committee to the Federal Energy Administration, I was figuratively and almost literally bowled over by a group of 100 demonstrators from New England and the Mid-Atlantic States whose placards bore the legend "Down with the fuel adjustment clause"--and this was more than a year ago. There are a number of proposals before the Subcommittee, but I would like to focus my remarks on H.R. 12461, introduced by the Subcommittee Chairman and other members of the House Commerce Committee. In general, we believe the bill is on the right track. There are some modifications that I will propose and there may be some additional provisions that should be considered by the Subcommittee.

For convenience, I shall comment on the principal titles of H.R. 12461 in order.

TITLE II - ELECTRIC UTILITY RATE REFORM

Title II undertakes to fix criteria to be used by state regulatory agencies. This, of course, is a bold and controversial approach, without regard to any disputes that may exist about each of the individual minimum standards posed in the title.

I do not think of myself as a "states-righter", but I can safely predict there is going to be substantial resistance from state agencies. Some state agencies are well staffed and have pioneered in regulatory reform and innovation, and hardly any of the state groups will be enthusiastic about Federal standards. Undoubtedly, there are such diverse situations facing individual state regulatory bodies in a country as large and as varied as the United States that there is some real danger in attempting to fix national requirements that would be universally applicable. Although many of the requirements specified in Title II are no more than codifications of practices already initiated and implemented by some state agencies, for the most part, they seem so sound and reasonable that I believe, on balance, it would be desirable for Congress to enact minimum national rate-setting criteria.

Because of the problem mentioned a moment ago regarding the diversity of utilities and situations, the Subcommittee might well consider a provision that would permit state agencies to deviate from the requirements specified in Title II upon a substantial showing that compliance would be wasteful, impossible of accomplishment, or inappropriate for any other reason. The process for waiver should be sufficiently burdensome that waivers will not be granted on a wholesale basis, and yet not so cumbersome as to bog down entirely in procedural quagmires. I do not think of any agency or individual in whom the responsibility to grant waivers naturally and logically should be vested. However, as a starter, I would suggest the Federal Power Commission be granted that authority. State regulatory agencies are not likely to take kindly to a requirement that they go to the FPC; the state bodies may well have a better recommendation for the Subcommittee. The point should be clear, however, and that is that some such escape mechanism could avoid enormous headaches in the future.

The first minimum standard in Subsection 203(a) requires rates to reflect the cost of providing service to classes of users. The idea of fixing rates on a class basis and in a manner that will approximate the cost of providing that class of service is fairly standard practice, although it is not free from difficulties in terms of allocation of overhead and generation expenses and other considerations. The procedures set forth in Section 205 for determining the cost of service will undoubtedly be helpful, and on the basis of a quick examination, the information required by the section and the two-year time period to "get organized" seem to make sense.

The second minimum standard carries the cost of service concept one step further to the declining-rate block practice. This is, in my judgment, a proper goal that ought to be set for utilities as we move away from the practice of discount rates for large volume sales. The earlier philosophy in rate-setting was to encourage the use of larger volumes of electric energy through decreasing per unit costs. That philosophy made sense during a time when new generating capacity, reflecting technological and other improvements, meant that the newer facilities would produce electric energy more economically than the older, existing plants. That is certainly no longer the case, and thus the trend toward so-called flatter rates reflects the new realities of electric generation and transmission.

The next provision is most interesting and, in some ways, most difficult. For nearly two years, I was the Chairman of the Consumer Affairs/Special Impact Advisory Committee to the Federal Energy Office and then the Federal Energy Administration. During that time the members of the Advisory Committee were insistent that there be some special consideration in the way of rate design or otherwise to assist those people at the bottom of our economic ladder who were bearing a disproportionate share of the nearly unbelievable increases in energy costs. As a result of those efforts, FEA initiated some

experiments with state regulatory bodies and individual utilities to determine how such a "lifeline" concept might be implemented. No one should kid themselves; there are some good-sized problems in implementing that very laudable and worthwhile concept. Some utilities have already altered their rate design and requested either no increases or very small increases in applications for rate increases for the smallest block. I understand that one municipal system (Los Angeles Department of Water and Power) has given a preferred rate for customers 65 years or older and whose income is below a fixed amount; this could be done with a minimum of administrative burden, so I understand, because the citizens within the service area who met that category were already designated for special tax relief. In any event, "lifeline" does present a problem in that it would assist or subsidize not only the poorer families, but also those who are quite able to pay their bills but who happen to have second homes, more efficient equipment or generally do not use large amounts of electric energy.

One further problem with the provision as drafted is that it is limited to lighting and refrigeration. Of far greater consequence, insofar as poor people are concerned, is the difficulty experienced by those who have electric space heating or electric hot water heating. This aspect of the matter manifests itself in quite a different way: under the scheme, the next larger blocks beyond the first one will have to bear a larger share of the cost of providing service and this could aggravate the problem for those poor families who find themselves in situations where they are using far more electricity, not because they are wasteful or extravagant, but because of the facilities they happen to have in place in their homes.

Additionally, this approach might be of no benefit to those poorer families who pay rent which includes utility services and whose landlords would not be beneficiaries of this particular provision.

Boiled down, there are some significant problems associated with the "subsistence quantity" approach of the bill, and yet, as I balance the need to make some progress in this direction, I am constrained to support the provision. As drafted in H.R. 12461, the language takes care of some of the problems associated with "lifeline" rates, but the provision itself is not free of difficulty, in that it contains no mandate to fix those initial or smallest block rates at less than the cost of service, and consequently the benefits are diminished.

Hopefully, the hard data from the projects underway by FEA will provide insight and guidance as to how the problems can best be handled.

Although not necessarily germane to the Subcommittee's considerations, I hope that Congress will recognize the need to provide emergency funding (preferably through the budget of Community Services Administration) while we are attempting to determine whether "lifeline

rates", "energy stamps", or some other means are to be employed to provide special protection for those families who need it most.

The fourth standard in Section 203 would require greater efforts on the part of utilities to advise their consumers of information relating to their rates. This is certainly in keeping with the increased emphasis on disclosure, but I don't believe it is going to somehow enable consumers to realize very many benefits from it. The provision is unobjectionable and should be enacted.

The fifth and last minimum requirement would impose the burden for political, promotion, or institutional advertising (with specified exceptions) on the stockholders rather than on the rate-payers. I think this is another idea that has been developed and implemented by a number of state regulatory agencies, and in light of our present national attitudes about energy consumption, the provision makes sense and should be incorporated into law.

FUEL ADJUSTMENT CLAUSES

Subsection 203(b) deals with the very difficult and controversial business of fuel adjustment clauses. The need for some very rapid techniques for adjusting to sharp fuel increases is the foundation of the fuel adjustment clause, and the limitations imposed by the bill (at least a 5% increase in the fuel expense and only an automatic pass-through of 85% of the increase) appear to me to be reasonable. This formulation should protect any utility from sharp losses in revenue that could not be recovered, and provide an incentive to bargain hard for fuel at the best prices possible. Here, too, a universal requirement may in some particular situations work to provide special detriments and the Subcommittee may wish, therefore, to develop some sort of an emergency provision along the lines I discussed earlier in more general terms.

The last sentence of Subsection 203(b)(2)(a) indicates another situation where some flexibility may be warranted. For example, I am aware of at least one utility that does have captive coal mines, but operates them on a non-profit basis. In such a situation, it may well be that prohibition against automatic pass-through would compel the utility to use a different means of providing part of its fuel that could be more costly to its consumers. I can't say for sure how this ought to be handled, but I think the point is worth further consideration by the Subcommittee.

CONSTRUCTION WORK IN PROGRESS

As I read the bill, construction work in progress may not be included insofar as wholesale sales of electric energy are concerned. But up to 66-2/3% of construction work in progress may be included in the rate base by state regulatory agencies, where sales to the ultimate

user is involved. I fail to see why there should be a distinction between the two, and do not believe that including construction work in progress in the rate base is the appropriate course in either type of sale.

Undoubtedly, the pressure to include construction work in progress is a reflection of the greater costs involved in construction in today's real world, coupled with problems that some utilities have had in raising capital. But the proposal demonstrates one of the difficulties of fashioning solutions to meet specific problems. Only a year ago, electric utility stocks were near all-time lows and the ability to sell securities was seriously impaired--indeed, a large number of construction projects were postponed, not because of environmental pressures but simply because of a bad securities market. Today the situation has improved markedly and it would be very nearly impossible to permit some utilities within a state to include CWIP, and not others. Moreover, the generally accepted principle that facilities should be needed and should be operated before they can be properly included in the rate base is pretty sound.

There should be no misunderstanding; including construction work in the rate base is simply another way of increasing rates. Unfortunately, as indicated, it has some unsatisfactory consequences, and I see no reason why Congress should endorse or encourage such a step.

LOAD MANAGEMENT TECHNIQUES

Certainly "time of day" pricing and other approaches listed in Section 204 ought to be encouraged. This is another instance in which state regulatory bodies, utilities, and others are already showing great progress. Many utilities have already made the philosophical adjustment to the new dynamics of their industry and are attempting to promote conservation of energy and greatly increased load factors. There is, of course, a built-in dilemma, since any organization that is profit-oriented does not want to stay at its past levels or to decline. It will take great care and sophistication on the part of state regulatory bodies to implement these load management techniques, and they should be encouraged to do so. A regulator need not believe electric utilities subject to regulation are improperly motivated in order to keep a very watchful eye on the practices employed by the utility.

ECONOMIC REGULATION OF BULK POWER SUPPLY

The provisions of Title III deal with an extremely important aspect of the electric utility industry. Basically, the thrust of the provision which would amend the Federal Power Act to require far greater coordination and efficient use of electric generating and transmission facilities is, highly desirable and indeed essential.

The long ranging debates, fights, and tensions between the privately owned segment of the electric utility industry, on the one hand, and the publicly and cooperatively owned, on the other hand, is a part of our national electric utility history. There have been significant benefits from the competition engendered by the different

ownership forms, but existing law--or rather the absence of legal requirements--has resulted in some wasteful consequences that can no longer be tolerated.

The traditional reluctance of privately owned utilities to wheel power for other utilities, especially those that are in a different form of ownership, may be understandable as "business is business", but really can't be permitted to continue. The idea of Utility A having to build transmission lines because Utility B will not transmit power for Utility A, where those lines are unnecessarily duplicatory, must become a practice of the past.

There has been considerable progress in joint ownership of generating facilities among different utilities, and this should be encouraged and insisted upon. The Federal Power Commission must be given adequate authority to require more effective and efficient operation, and I enthusiastically endorse this approach. Section 307 would clarify FPC authority to prohibit unfair competition--this is another constructive recommendation. Certainly the FPC must serve as an arbitrator when utilities cannot reach agreement and it must ensure that there is no discrimination against the consumers or customers of one utility as opposed to another.

We all must hope there will not be shortages of electric energy for future residential, commercial and industrial requirements. Realistically, however, we must have a procedure in place to resolve problems that might flow from any shortages. Already municipally and cooperatively owned electric utilities have been put on notice by a privately owned utility that it forecasts inadequate power for its own customers and the municipals and coops may be cut off. I dare say no government--whether it be Federal, state or local--will permit residential users to be cut off simply because they are served by municipal or cooperative systems, especially where the historical background demonstrates that countless municipals and coops did not construct their own generating facilities at the entreaty and upon assurances of their larger privately owned sister utilities that they would always be protected by an assured supply of wholesale power. Inevitably there will be some difficult problems, but FPC must be given the authority--and hopefully adequate staff--to perform this assignment equitably, efficiently, and expeditiously.

OFFICE OF PUBLIC COUNSEL

Creation of an Office of Public Counsel in the FPC (Section 308) is long overdue and should be enacted. As a long-time supporter of a Consumer Protection Agency, I have no doubt that regulators will do a far better job if there is vigorous advocacy on the part of all groups with an interest in any particular FPC decision. An independent advocate of consumer interests--even recognizing there will be some questions about different and competing consumer groups--can make an enormous contribution, and I hope this proposal will be implemented. Providing funds for outside groups, which is also in H.R. 12461, is an additional recommendation deserving of support.

I know there are many who believe a Public Counsel and public-funded outside groups will simply proliferate intervenors and additional parties and thereby lead to additional delay in what are already too lengthy proceedings. My own views are to the contrary. I believe that consumer, environmental, and other interests that are represented by effective counsel will ultimately result in speedier hearings and a sense of assurance on the part of the Commission and its staff that strong presentations will have been made, thereby lessening their own need to explore each and every point that would otherwise be argued by skilled advocates.

RELIABILITY STANDARDS

The electric industry has done an excellent job following the massive New York-New England power failure of 1965 and the lesser Mid Atlantic failure of 1967. I think that the FPC and state regulatory bodies have demonstrated a high degree of cooperation and, although no one can predict with absolute assurance that there will never be any more failures of that type, we must continue our national efforts in this direction and we must worry, too, about adequate energy to meet needs. A quick examination of Section 309 suggests that the functions that would be assigned to the FPC are reasonable. One can predict that if for any reason they are not, this Subcommittee will hear about it.

FINANCIAL ASSISTANCE TO STATE REGULATORY AGENCIES

I heartily endorse the provisions of Title IV that would provide for financial assistance to state regulatory agencies. Clearly, the state agencies are not uniform in their performance, and perhaps there is no reason that they should be peas out of the same pod. It is important, however, that they have adequate funding and the ability to staff their agencies to meet the enormously complex and important issues that must be resolved. There may be other ways that those increased funds could be made available, but at least this approach is one that could do the trick, and I urge its enactment.

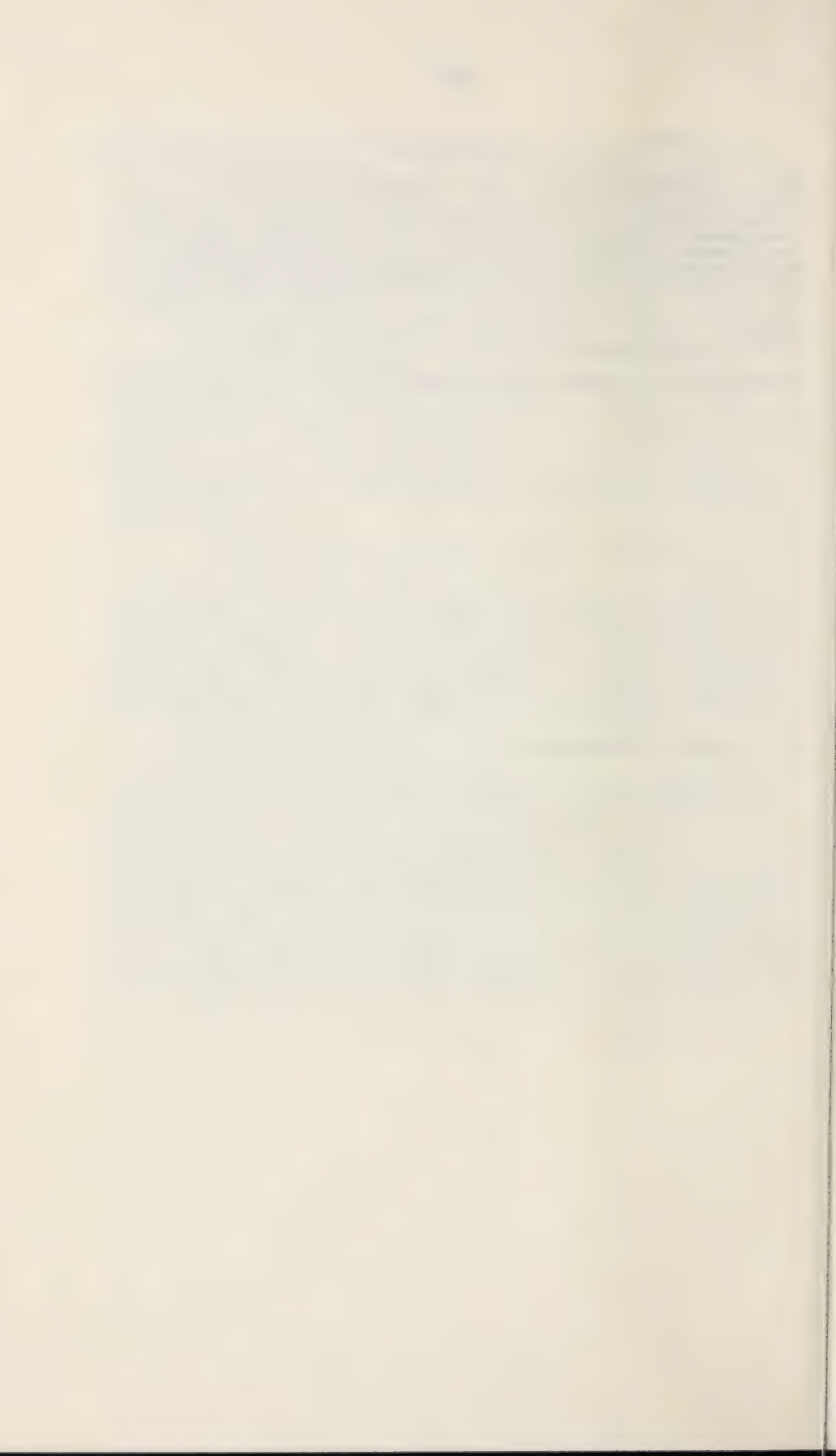
COORDINATION OF PLANNING AND SITING OF BULK POWER FACILITIES

Although I have not made a detailed study of the provisions of Title V which call for coordinated planning and siting of bulk power facilities, Title V appears to include many of the same factors that were encompassed in legislation proposed by the FPC in 1967. I believed then, and I believe now, that greater coordination is required at the planning level and in the approval process. The life of a utility executive is a fairly complicated thing these days and the additional problems that are required to be understood and dealt with vastly add to the difficulty. There are no perfect processes for performing the necessary reviews of the multi-faceted and even conflicting or contradictory considerations involved in construction of major generating facilities and transmission lines, but the proposals contained in Title V seem to me to offer a useful contribution in that direction.

CONCLUSION

There is an awful lot in H.R. 12461, and much of it involves controversial and complex matters. I hope the Subcommittee's review will assist in refining and improving the bill, and that the contributions of all who have some interest in the field will make the ultimate product more useful in meeting the laudable goals at which the bill is directed. Unquestionably, some of these issues are not going to be resolved by compromise and accommodation; the democratic process will have to work its way so the majority position will prevail and we all can get on with the business of providing adequate, reliable electric energy at rates and on terms that are as fair to the consumer as possible.

Thank you for the opportunity to comment.





UTILITY CONSUMERS COUNCIL OF MISSOURI, INC.

7710 Carondelet Avenue
Clayton, Missouri 63105

STATEMENT OF ALBERTA SLAVIN, PRESIDENT UTILITY CONSUMERS COUNCIL OF MISSOURI, INC.

BEFORE THE SUBCOMMITTEE ON ENERGY AND POWER
AT HEARINGS CONCERNING H.R. 12461, THE ELECTRIC UTILITY
RATE REFORM AND REGULATORY IMPROVEMENT ACT
TUESDAY, MARCH 30

As an introduction to my remarks about the "Electric Rate Reform and Regulatory Improvement Act", I would like to provide the Committee with a brief description of my work with the Utility Consumers Council. As President and founder of UCCM, I have participated in many rate cases since the inception of our organization in late 1970. Eight attorneys, both in practice and in academic positions, volunteer their services to represent our Council in proceedings before the State Regulatory Commission. They also represent our Council in litigation when we believe that the Commission has ruled unlawfully and unjustly. We are litigating four rulings of the Commission at this time.

One of our major interests is utility rate reform, and we support the need for federal legislation in this area. Rate reform through the state regulatory process is exceedingly slow and cumbersome -- particularly at a time when the national need is so critical. It is for that reason that this legislation is so important, and it is for that reason that we would like to see this legislation drafted so that it meets this pressing need.

This legislation is complex and makes a real effort to address some of the problems of rate reform, but it falls short of its goal. For example, our Council is involved in a fuel adjustment evidentiary proceeding right now. After imposing the automatic fuel adjustment clause to residential customers' bills, the Commission established a proceeding to see if their own staff was adequately monitoring charges. In the last sixteen months, the fuel adjustment has risen at a rate of one percent a day, and it is clear to us that the PSC staff monitoring is inadequate to protect consumer interests. Yet, I also have no doubt that the Commission will rule to allow utilities the automatic fuel adjustment clause. An evidentiary hearing annually as provided for in this legislation will not correct this problem -- and this is true of a cost of money adjustment clause or any automatic clause. In our view, to allow electric

utilities the automatic fuel adjustment clause, the automatic cost of money adjustment clause, or any other automatic ratemaking devices results, as a practical matter, in the utilities being able to control their rates unilaterally of regulation. As a result, those regulatory commissions which approve automatic adjustment clauses are abdicating their duty to protect the consumers of this Nation.

In Missouri, the PSC recently allowed Union Electric to collect some of the costs of construction work in progress from the ratepayers. We object to this ruling and have filed suit against the Commission. We are undertaking an initiative petition drive to ask the voters to declare this ruling unlawful in the November election. The language of our petition reads:

Any charge made or demanded by an electrical corporation for service, or in connection therewith, which is based on the costs of construction in progress upon any existing or new facility of the electrical corporation, or any other cost associated with owning, operating, maintaining, or financing any property before it is fully operational and used for service, is unjust and unreasonable, and is prohibited.

While this language is couched in the language of existing Missouri law, it is far superior to the language of this proposed legislation on page 15.

C.W.I.P. is welfare for the investor-owned utilities. If ratepayers are to be forced to finance utility construction projects through rates, they should be issued stocks and bonds and earn dividends on their investment.

The PSC granted our repeated requests for a Union Electric cost of service study in June 1974. We have been involved in that study along with other intervenors and the PSC since the ruling was issued. We have no data yet which is useful in designing rates, and the Commission refused to make any rate structure changes in the December 1975 ruling of U.E.'s rate case until the results of this study were tabulated.

This is tragic, for there is already a body of evidence that points to the need for changes now. I raise this point, for this legislation proposes to mandate a cost of service study by each utility which will be very costly and time consuming.

FEA has funded six major cost-of-service studies, and I am confident there are others which have been mandated by various commissions. It would seem to be far more practical to mandate the use of the results of these studies to serve as guidelines for rate reform. Although there is an escape clause in Section 205(c)(2) of this proposed legislation, the new Commission can expect to be deluged by requests for exemption. I think, too, that the Committee should recognize that a true cost of service study is extremely costly, and these costs are passed along to the consumers.

Although there are other problems to be addressed in this legislation, I would like to conclude with a few remarks about funding regulatory commissions. I believe that this would be a misplacement of funds. I believe that the only way we can strengthen the regulatory process is to strengthen the adversary process. The public is woefully underrepresented in rate proceedings. In Missouri, the PSC receives its operating funds through a lug on the utilities it regulates. The newly created Office of Public Counsel receives its meager budgetary support from tax revenues. Instead of giving additional monetary aid to regulatory commissions, this assistance should be directed to offices of Public Counsel or to the reimbursement of attorneys such as ours who volunteer hours of their time in state regulatory proceedings.

I have been unable in the time allotted to prepare for this hearing to address all of the points of this legislation, but I would like to make one final philosophical point. Utilities are involved in a process of attempting to insulate themselves from any risks, and they have duped the commissions into believing they must be free from risk in order to provide vitally needed electric capacity. If we are to benefit from the advantages of private ownership of utilities, the investor-owned utilities must face the risks of loss that all businesses face in order to assure efficient management. The last thing this Nation needs is a welfare program for unproductive utility managers.

UNITED STATES HOUSE OF REPRESENTATIVES
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE
SUBCOMMITTEE ON ENERGY AND POWER

STATEMENT OF THE
NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS
1102 INTERSTATE COMMERCE COMMISSION BUILDING
CONSTITUTION AVENUE AND TWELFTH STREET, N.W.
POST OFFICE BOX 684, WASHINGTON, D.C. 20044
TELEPHONE (202) 628-7324

ON

H.R. 12461, A BILL PROPOSING THE ELECTRIC UTILITY RATE REFORM
AND REGULATORY IMPROVEMENT ACT; AND

H.R. 2633, A BILL PROPOSING THE
ENERGY INDEPENDENCE ACT OF 1975

MARCH 30, 1976

Mr. Chairman and Members of the Subcommittee:

My name is James McGirr Kelly, and I am the President of the National Association of Regulatory Utility Commissioners, commonly known as the "NARUC." I am also a member of the Pennsylvania Public Utility Commission and have served in such capacity since May 27, 1967.

I am accompanied at the witness table today by Paul Rodgers, NARUC Administrative Director and General Counsel, J. Edward Smith, Jr., NARUC Director of Economics, and Albert J. Barr, NARUC Director of Congressional Relations.

The NARUC is a quasi-governmental nonprofit organization founded in 1889. Within its membership are the governmental agencies of the fifty States and of the District of Columbia, Puerto Rico, and the Virgin Islands engaged in the regulation of utilities and carriers. Our chief objective is to serve the public interest by seeking to improve the quality and effectiveness of public regulation.

The members of the NARUC appreciate your invitation to make their views known on H.R. 12461, a bill proposing the Electric Utility Rate Reform and Regulatory Improvement Act, and H.R. 2633, a bill proposing the Energy Independence Act of 1975. We understand the interest which many members of Congress have in the subject of reforming the electric utility rate making process. During the last several years the Nation has become increasingly distressed over the continual rise of electric utility rates, the regulatory processes by which rates are set, and the possible overbuilding of capacity. The bills under discussion today attempt to deal with these problems.

Escalating Plant and Fuel Costs--The Basic Problem

Unfortunately, the bills ignore rapidly escalating plant and

equipment costs and rising fuel costs which are the two most pressing problems confronting the electric utility industry and which are causing substantial price increases to consumers. H.R. 12461 focuses too heavily on load management. Through the pioneering efforts of the State commissions, load management is a problem already under substantial analysis and is likely to be implemented where appropriate in the near future. The State commissions have again demonstrated their ability to address a difficult and challenging issue. Operating at the grass roots and possessing skilled and experienced staffs, the State commissions are opposed to Federal preemption and usurpation of their regulatory powers. We have the ability to do the job of regulation and do not need additional laws and an increased and centralized bureaucracy imposed upon us.

Since we fully understand and share the national concern about the electric utility industry and its problems, I would like to make some positive, and hopefully useful, proposals today. Therefore, before I examine in detail some of the more objectionable aspects of the proposed legislation, I would like to address our two most pressing problems: fuel costs and capacity costs. Unlike load management, these are not problems easily amenable to solution at the State level. Rather, the Energy Research and Development Administration (ERDA), the Nuclear Regulatory Commission (NRC) and the Federal Energy Administration (FEA) can play a major role in addressing these problems which transcend State boundaries.

A major contributor to rising electric rates has been the rapidly escalating cost of fuel. Although there is little that can be done about the immediate level of fuel costs, there is a lot that can be done in the next few years that will greatly benefit

the consumer. Our two most plentiful sources of energy are coal and uranium. We need improved processes to permit the safe and environmentally acceptable use of these fuels. For coal this means improved pollution technologies and processes to convert coal to environmentally acceptable fuels suitable for use in a power plant. For uranium this means research which will increase the reliability, efficiency, and public acceptance of the plants. The type of research I am outlining is not exotic, basic, long range research. It is applied engineering aimed at the reduction of cost and the improvement of reliability as rapidly as possible--hopefully within the next one to five years. This will help greatly in getting fuel costs under control.

The second major factor behind skyrocketing utility bills has been the rapidly rising cost of plant and equipment. The proposed legislation is oriented towards assuring that excess capacity is not built. This would appear to be a problem at the present time. However, I respectfully suggest that the problems of excess capacity will not be with us much longer. In order to achieve energy self-sufficiency we are going to have to rely increasingly on uranium and coal. These fuels are burned in power plants. The problem is not going to be excess capacity: it will continue to be the high plant, equipment and construction costs involved in increasing our electric supply. Applied engineering on how to get the cost per kilowatt hour of installed generating capacity down would be of tremendous and immediate benefit to the consumer. This is an area in which Federal and State joint action could have an effective input in protecting the consumer.

Title II--Utility Rate Reform

Turning now to H.R. 12461, I would like to discuss in detail some of the more objectionable parts of it. Title II of the proposed legislation would mandate uniform Federal standards on regulatory procedures. This is entirely inappropriate. Electricity is not produced under uniform conditions throughout the country. State commissions and legislatures are best able to take all factors into account in establishing appropriate regulatory procedures. Many of the standards advocated in Section 203 are already common practice. However, I can see little to be gained from mandating the procedures in Federal legislation. Each State is best able to handle its own problems and frequently needs flexibility in tailoring general regulatory procedures to specific State use.

A particularly objectionable part of Section 203 is the proposed lifeline rate.^{1/} Problems of determining the appropriate subsistence amount of electricity, the incidence of the benefits and costs on the consumer, and the efficiency and suitability of the procedure still remain to be resolved. Furthermore, the answers are likely to vary from State to State. I am not endorsing or condemning lifeline rates. What I wish to indicate is that the state of knowledge about the incidence of such rates is not yet fully developed, that such rates are experimental, and that a uniform approach--which does not permit complete flexibility at the State level--is inappropriate.

The restriction of the automatic adjustment clauses to the automatic pass-through of 85 percent of cost increases is also unwise.^{2/} In some cases 85% will be too much, and in other cases, it will be

^{1/} Sec. 203(a)(3), pp. 11-12.

^{2/} Sec. 203(b)(2)-(4), pp. 14-15.

too little. We are a diverse country, and each commission should have whatever flexibility the people of the State believe is appropriate. The same argument applies to the Construction Work in progress issue.^{3/}

Section 204 mandates the use of load management techniques, including peak load pricing, long run incremental cost pricing, and the installation of appropriate hardware. Rates designed on the traditional declining block rate model served the industry and the public interest well in periods of moderate inflation where increases in the level of costs were more than offset by technological progress and the attainment of economies of scale. In recent years, the economics of the industry have changed. The incremental cost of producing the next unit of electricity is higher than existing costs. Furthermore, every additional unit of electric output produced increases in the overall cost. Costs continue to rise not only due to increases in labor and materials but also due to the construction of new facilities to serve the rising public demand for electric energy. For this reason, the age of promotional rates is over.

Starting with the now famous Madison Gas and Electric Case, the subjects of optimal electric rate structures and load management techniques have undergone widespread scrutiny by the State commissions.^{4/} At the initiation of the State commissions, generic rate proceedings involving the study of peak-load pricing techniques, are underway in several States including Florida, Maryland, Massachusetts, New York, North Carolina and Wisconsin. These proceedings involve all interested parties including representatives of electric utilities, major customer classes (residential, commercial and

^{3/}Sec. 203(c), pp. 15-16.

^{4/}Application of Madison Gas and Electric Company for authority to Increase Its Electric and Gas Rates, 2-U-7423, Wisconsin Public Service Commission, August 8, 1974, 5 PUR 4th pp. 28-61

industrial), and Federal agencies. Testimony is being given on behalf of the intervening parties by expert witnesses in the fields of economics, finance, engineering, energy and environment. The purpose of these hearings is to identify the many complex issues involved, so that the economic feasibility of a peak-load pricing technique can be determined.

The NARUC assembled in its 86th Annual Convention in San Diego on December 5, 1974, adopted a resolution requesting the Electric Power Research Institute (EPRI) and the Edison Electric Institute (EEI) to perform a study involving an analysis of time-of-day metering and load growth management.^{5/} The research study is now underway by EPRI and EEI with the cooperation and participation of the NARUC and is designed to aid the State regulatory commissions in meeting their needs for research, data collection, and analysis pertaining to rate design. The study is analyzing information on the potential of time-of-day pricing and appropriate rate structures including a study of the technology and cost of time-of-day metering and electronic methods of controlling peak period usage of electricity, and a study of the feasibility and cost of shifting various types of usage from on-peak to off-peak periods. Analysis also includes the assignment of the possibility of basing individual rates on incremental rather than historical costs within the framework of traditional aggregate revenue requirements as determined by the various regulatory authorities.

The State regulatory commissions have also acted in cooperation with the Federal Energy Administration (FEA) and various electric
5/ Convention Proceedings, pp. 211-212.

utility companies to initiate a program of field demonstration projects involving peak-load pricing, load-control technology, and end-use conservation activities. For example, the Vermont Public Service Board and Green Mountain Power Company have a project underway to assess general customer acceptance and the load-and-financial-management effectiveness of a broad range of rate designs. Preliminary results of this analysis are expected to be available in the near future.

In addition to the program under way in Vermont, there are currently nine other research projects in various stages of operation throughout the country. These projects are being performed with the cooperation and full participation of local utility companies and State commissions. These nine projects involve regulatory commissions in Arizona, Arkansas, Connecticut, Los Angeles, Michigan, New Jersey, New York, Ohio and Wisconsin. Areas of study include time-of-day pricing, long-run incremental cost pricing, future embedded costs, storage heaters, interruptible rates, increased summer/winter price differentials, metering technology and load management. The FEA has obtained additional funds for this purpose and is presently adding a number of research projects to those already implemented.

Manifestly, the State regulatory commissions have been active in exploring innovative and potentially more efficient regulatory practices. Indeed, the State regulatory agencies have been and continue to be major participants in all areas of regulatory innovation. There are many complex issues involved in the analysis of peak-load pricing and load-management research, and the issues must be thoroughly analyzed before a system of peak-load pricing

is initiated. To require such a pricing system before all relevant studies are completed and data analyzed and to mandate a universal approach when regional differences exist would at best be premature and at worst have unsettling and undesirable effects on local utility companies and their customers.

The State commissions have demonstrated their ability to handle the problems associated with load management. The provisions of Section 204 and the Office of Electric Utility Ratemaking Assistance proposed in Section 207 are unnecessary and would only create another layer of Federal regulation and employment.

Section 208 provides for compensation to consumers for reasonable legal expenses incurred in regulatory proceedings. Presently some States have an office of consumer affairs to represent residential customers in regulatory proceedings, while in others the commission staff makes an analysis of each rate case. I believe that each State should be free to determine what type of consumer representation is most appropriate.

Title III--Economic Regulation of
Bulk Power Supply

Turning to Title III of H.R. 12461, we believe the implementation of its provisions at this time would be premature. When taken collectively, most of the recommendations of Title III would provide for a substantial restructuring of the industry. It is clear from Sections 301, 302, 303 and 307 that the concept of competitive power generation with the public utilities acting as common carriers and distributors of electricity is under consideration. I am aware that a restructuring of the industry is viewed as desirable by many people in order to promote competition, efficiency, and low rates. However, substantial studies and care-

ful consideration of any proposals should precede their implementation. Therefore, I suggest that if the studies outlined in Section 310 should be commissioned then the work should proceed with the assistance and consultation of the State commissions, the NARUC, the electric utility industry and interested consumers. I believe that the State commissions can make a useful input in considering these subjects. As one example I would like to briefly mention the use of efficiency comparisons of electric utilities which is referred to in Section 310(a)(6).

In August of 1975 the New York Commission sponsored a two day conference on this subject and has taken the lead in developing information on the subject. In September 1975, the NARUC released a study entitled The Measurement of Electric Utility Efficiency. This study discussed various possible methodologies for the measurement of utility efficiency and presented a method for the analysis of deviant cost performance. A revision and updating of the study is presently under way, and we have requested the Federal Power Commission to assist us in performing some of the data analysis. The NARUC Executive Committee at its Winter Meeting held February 25-26, 1976, established an Ad Hoc Committee on Utility Efficiency. The State commissions have again demonstrated their willingness and ability to address a difficult and important issue. I hope that the State commissions will be fully consulted should any studies of the industry's structure be undertaken.

Section 309 unnecessarily duplicates State regulatory authority. State commissions have the authority, after due process, to instruct their utilities to attain an appropriate degree of reliability. The major electric utility reliability problem is presently found

among nuclear power plants, and the problem is caused not by a lack of regulatory authority but by many problems in the present engineering technology. This lack of reliability appears to be largely due to the evolving nature of the technology. We believe that this question of nuclear reliability should be examined by ERDA and the NRC on an intensive and immediate basis. Additional legislation, however, is not needed.

Title IV--Financial Assistance to
State Regulatory Authorities

The NARUC is opposed to Title IV of H.R. 12461 which proposes financial assistance to State regulatory authorities through the annual Congressional appropriation process. At its 87th Annual Convention on November 6, 1975, the NARUC voted against supporting such a provision in the form of S. 2033, a bill proposing the Utilities Regulatory Improvement Act of 1975.

We believe that the primary responsibility for providing the necessary funds to support adequate regulation in a State rests with the people of that State. In general, State commission staffs are increasing significantly at the present time to meet the demands imposed by a more difficult regulatory environment.

Many States have long paid the price for adequate regulatory staffs. Some have not. Title IV in effect would use tax monies collected from all the States to subsidize the costs of staffs in some States which have not yet developed adequate staffs for various reasons.

We do not believe such a conscription of taxpayer funds is fair.

Title V--Coordination of Planning and
Siting of Bulk Power Facilities

The NARUC has no objection to the enactment of Title V of H.R. 12461 concerning long-range coordinated area planning and siting of bulk power facilities. We interpret Section 502 as merely streamlining the Federal regulatory siting process as authorized by existing law with no reduction in present State authority in this area.

H.R. 2633

Turning to H.R. 2633, the NARUC is most concerned with Title VII, proposing the Utilities Act of 1975, and Title VIII, proposing the Energy Facilities Planning and Development Act of 1975.

The NARUC Executive Committee on February 27, 1975, adopted a resolution opposing the enactment of Title VII on the same rationale that we oppose Title II of H.R. 12461--the serious reduction of flexibility in the State regulatory process which is sorely needed to respond to the diverse conditions.^{6/} Moreover, the resolution pointed out that Title VII would "raise electric utility rates by approximately 20%, and this is far in excess of any reasonable increase needed to maintain a viable industry." This 20% would be in addition to the increases brought about by normal inflationary pressures.

The NARUC, speaking through: Ralph H. Wickberg, NARUC President and Commissioner of the Idaho Public Utilities Commission; Peter A. Bradford, Chairman of the Maine Public Utilities Commission; Commissioner Louis J. Carter of the Pennsylvania Public Utility Commission; Richard D. Cudahy, Chairman of the Wisconsin Public Service Commission; and Commissioner Jim Zeigler of the

^{6/} Reported NARUC Bulletin No. 11-1975, p. 26.

Alabama Public Service Commission; on April 17, 1975, testified in opposition to Title VII of S. 594, a duplicate of H.R. 2633, before the Senate Committee on Government Operations. We respectfully request that our testimony there presented be incorporated by reference in the record of these hearings.^{7/}

The NARUC is opposed to Title VIII of H.R. 2633 because of its features preempting State regulation. Accordingly, in this area we prefer Section 502 of H.R. 12461.

Conclusion

In conclusion, Mr. Chairman and members of the Subcommittee, I would urge that H.R. 12461 be substantially redrafted to address the causes of rising electric utility rates: the high cost of energy and rising costs of new capacity. ERDA should be directed to conduct applied engineering studies on the use of coal, the improvement of existing nuclear technology, and the rising costs of new plant and equipment. We need a substantial amount of applied engineering with a short term payoff.

As you can see from our testimony, we are most opposed to Title II which, if enacted, would "straitjacket" the State regulatory process by a uniform Federal mandate which would stifle further innovation and experimentation. Such innovation and experimentation is vital to the strength of the public regulatory process and is needed now more than at any other time in our history.

Forty-four years ago, then Supreme Court Justice Brandeis commented while dissenting in a case that:

^{7/} The testimony is reported in The Utilities Act of 1975, Hearings Before the Subcommittee on Intergovernmental Relations and the Subcommittee on Reports, Accounting and Management of the Committee on Government Operations, United States Senate, Ninety-Fourth Congress, First Session, on S. 594, To Increase Domestic Energy Supplies and Availability; To Restrain Energy Demand; and To Prepare For Energy Emergencies, and For Other Purposes, Title VII, April 14, 15, and 17, 1975, pages 321-351; and NARUC Bulletin No. 16-1975, pages 10-26.

"To stay experimentation in things social and economic is a grave responsibility. Denial of the right to experiment may be fraught with serious consequences to the Nation. It is one of the happy incidents of the Federal system that a single courageous State may, if its citizens choose, serve as a laboratory; and try novel social and economic experiments without risk to the rest of the country."^{8/}

Like Justice Brandeis, we believe that one of the major strengths of State regulation is the decentralized decision-making process. If one State makes a mistake, the others do not suffer, if one State succeeds, others may emulate its success. If the Federal Government regiments local electric rate making, experimentation and the ability to compare the results of different experiments will be seriously retarded.

Thank you for your attention.

^{8/} New State Ice Co. v. Liebmann (1932) 285 U.S. 262, 311, 76 L. Ed. 747, 771.

STATEMENT OF
PETER A. BRADFORD
COMMISSIONER, MAINE PUBLIC UTILITIES COMMISSION
TO THE
SUBCOMMITTEE ON ENERGY AND POWER
OF THE
HOUSE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE
ON
H.R. 12461

MARCH 30, 1976

AS ONE WHO HAS HAD RELUCTANTLY TO DISAGREE WITH ALMOST EVERY
SUBSTANTIVE ENERGY INITIATIVE TO COME FROM WASHINGTON IN THE LAST DECADE,
I FIND REAL PLEASURE IN BEING ABLE STRONGLY TO SUPPORT WHAT I TAKE TO
BE THE BASIC PURPOSE OF H.R. 12461 -- THAT IS THE SAFEGUARDING OF OUR
NATIONAL SECURITY THROUGH THE INCREASED EFFICIENCY OF OUR SYSTEM OF
GENERATING AND DELIVERING ELECTRICITY.

THE SECTIONS OF THIS BILL THAT MANDATE MARGINAL COST PRICING, LOAD
MANAGEMENT, AN END TO INEFFICIENT SUBSIDIES TO ATTRACT CONSUMING
INDUSTRIES, AND STATE REGULATION BETTER ABLE TO ANALYZE AND IMPLEMENT
THE ECONOMIC AND TECHNOLOGICAL INNOVATIONS ESSENTIAL TO THESE MEASURES
ARE SECTIONS THAT ASSERT A LEGITIMATELY OVERRIDING FEDERAL INTEREST.

THE IMPORTANCE OF THESE GOALS AND THE INABILITY OF THE STATES
ACTING SEPARATELY TO ACHIEVE THEM ARE A LEGITIMATE REASON TO DISREGARD

THE NORMAL ADVANTAGES ~~THE CITIZEN~~ OF LODGING DECISIONMAKING AS CLOSE TO THE CITIZENS AFFECTED AS POSSIBLE.

UNFORTUNATELY, AS WITH SO MANY MEASURES INITIALLY ADDRESSED TO THE NATIONAL SECURITY, PARTS OF THIS BILL GO TOO FAR.

I DO NOT FOR A MINUTE SUGGEST THAT LIFELINE, LIMITED FUEL ADJUSTMENT CLAUSES, OR AN END TO MOST UTILITY ADVERTISEMENTS ARE MEASURES THAT WRAP THE FLAG AROUND PERSONAL OR CORPORATE GREED IN THE MANNER OF THE OLD OIL IMPORT QUOTA SYSTEM, THE NIXON DOCTRINE OF EXECUTIVE PRIVILEGE, OR, FOR THAT MATTER, THE FORD ADMINISTRATION'S PROPOSALS TO REFORM STATE UTILITY REGULATION.

NEVERTHELESS, THE FAILURE OF LOGIC IS THE SAME IN THAT THE NATIONAL SECURITY RATIONALE IS BEING STRETCHED TO COVER MEASURES THAT IT CANNOT PROPERLY ENCOMPASS.

AS I WILL DISCUSS LATER, THE RESULT CAN ONLY BE CUMBERSOME, INEFFICIENT, STIFLING OF STATE INITIATIVE, COURT CLOGGING, AND ULTIMATELY UNENFORCEABLE.

AS I HAVE SUGGESTED, THE DIFFERENCE BETWEEN THOSE ASPECTS OF H.R. 12461 WHICH ARE SOUND AND DESIRABLE AND THOSE WHOSE DELECTION I WOULD URGE HINGES ON MY CONCEPT OF A SENSIBLE DIVISION OF STATE AND FEDERAL RESPONSIBILITIES.

MANY OF THE SPECIFIC MEASURES THAT I WILL URGE YOU TO DELETE FROM H.R. 12461 ARE MEASURES THAT I HAVE SUPPORTED OR WOULD SUPPORT IF THEY CAME BEFORE ME AT A STATE HEARING.

THEY ARE, HOWEVER, MEASURES ON WHICH NO STATE CONSENSUS EXISTS AND FOR WHICH THERE IS NO OVERRIDING NATIONAL INTEREST TO JUSTIFY PREEMPTIVE FEDERAL ACTION.

UNDER THESE CIRCUMSTANCES, THE ADVANTAGES SEEM TO ME TO LIE WITH USING THE STATES AS LABORATORIES IN WHICH DIFFERENT OPTIONS, INCLUDING OPTIONS CONTRARY EVEN TO THE MINIMUM REQUIREMENTS OF H.R. 12461, CAN BE TESTED AND REFINED.

THE STATE REGULATORY AGENCIES FORM AN INCREASINGLY VITAL COMMUNITY AND ONE IN WHICH A GOOD DEAL OF CROSS-POLLINATION OCCURS.

YOU WILL BE HEARING FROM ENOUGH OF ITS LEADING MEMBERS AT YOUR HEARINGS OVER THE NEXT TWO WEEKS THAT I HOPE YOU WILL COME TO SHARE MY FEELING THAT THEIRS AND NOT YOURS ARE THE HANDS BEST SUITED TO SHAPE APPROACHES TO THE MANY UTILITY REGULATORY ISSUES ON WHICH NO OVERRIDING NEED FOR FEDERAL ACTION EXISTS. THESE ARE NOT ISSUES LIKE CIVIL RIGHTS OR REAPPORTIONMENT, IN WHICH THOSE WHOM YOU PERCEIVE TO BE DISADVANTAGED ARE EFFECTIVELY PRECLUDED FROM VOTING AWAY THE SOURCES OF THEIR DISCONTENT.

STATE REGULATION WAS A MAJOR ISSUE IN TWO NEW ENGLAND GUBERNATORIAL ELECTIONS IN 1974, AND THE MASSACHUSETTS AND CONNECTICUT STATE COMMISSIONS ARE COMPLETELY REVAMPED AS A RESULT. THESE AND OTHER STRENGTHENED COMMISSIONS ARE WRESTLING WITH THE MATTERS ENCOMPASSED BY H.R. 12461, AS ARE MANY STATE LEGISLATURES. THIS IS A DIVERSIFIED, CREATIVE, AND RESPONSIBLE PROCESS, AND ONE WHICH THE FEDERAL GOVERNMENT SHOULD NOT TAMPER WITH UNLESS IT HAS TO.

*

*

*

LET ME RETURN NOW TO THE REASONS WHY I THINK THE ESSENCE OF H.R. 12461, THAT IS THE PROVISIONS REQUIRING MARGINAL COST PRICING AND LOAD MANAGEMENT, IS CONSTRUCTIVE AND NECESSARY.

THERE ARE THREE REASONS WHY I FEEL THIS WAY.

FIRST, THERE IS A CLEAR NATIONAL SECURITY INTEREST IN MAKING THE MOST EFFICIENT POSSIBLE USE OF OUR ENERGY AND CAPITAL RESOURCES.

OUR ENERGY DILEMMAS ALL REDUCE THEMSELVES TO STRETCHING THE ENERGY FACILITIES AND RESOURCES THAT THE UNITED STATES CONTROLS FURTHER IN TERMS BOTH OF OUTPUT AND OF TIME.

ACCURATE PRICING WILL ENABLE US TO PRODUCE MORE KILOWATT HOURS FROM FEWER POWER PLANTS WHILE TENDING TO DISTRIBUTE CONSUMPTION MORE TOWARD BASE LOAD PLANTS RATHER THAN EXPENSIVE (AND OFTEN OIL CONSUMING) PEAKING UNITS.

I WILL LEAVE TO SUBSEQUENT WITNESSES WITH BETTER TECHNICAL AND ECONOMIC QUALIFICATIONS THE TASK OF EXPLAINING THE DETAILED RELATIONSHIP BETWEEN MARGINAL COST PRICING, LOAD MANAGEMENT, AND OPTIONAL RESOURCE ALLOCATION. FOR PRESENT PURPOSES, LET ME JUST SAY THAT I AM CONVINCED THAT THE RELATIONSHIP DOES EXIST AND THAT IT GIVES US CONSIDERABLE PRESENT FLEXIBILITY TO AVERT EITHER POWER SHORTAGES OR THE CONSTRUCTION AND

OPERATION OF EXPENSIVE PEAKING UNITS BY SHIFTING DEMAND PATTERNS AWAY FROM SEASONAL AND DAILY PEAKS.

SECOND, IT IS POSSIBLE TO ESTABLISH AT LEAST A GENERAL FEDERAL GUIDELINE TO WHICH STATES WOULD SEEK TO CONFORM THEMSELVES AND THERE IS NO LIKELY WAY, ABSENT SUCH A GUIDELINE, THAT THE NATIONAL SECURITY OBJECTIVES DISCUSSED ABOVE CAN BE ATTAINED. GIVEN THE INTERCONNECTED NATURE OF OUR MULTI-STATE GENERATION AND TRANSMISSION SYSTEMS, IT IS ESSENTIAL TO THE FULL REALIZATION OF THE POTENTIAL EFFICIENCIES THAT THE MOVEMENT TO MARGINAL COST PRICING TAKE PLACE MORE OR LESS UNIFORMLY IN BOTH HORIZONTAL AND VERTICAL JURISDICTIONS. ^(, FOR EXAMPLE,) BY THAT I MEAN THAT THE NEW ENGLAND POWER POOL WILL NOT ACHIEVE MAXIMUM EFFICIENCY IF ONLY HALF OF THE SIX STATES RESORT TO MARGINAL COST PRICING, AND, BY THE SAME TOKEN RETAIL RATES BASED ON MARGINAL COST PRINCIPLES WILL HAVE ONLY A MUTED EFFECT IF THE WHOLESALE RATES CONTINUE TO BE GOVERNED BY EMBEDDED

COST PRINCIPLES.

THE LEGISLATION AFFORDS CONSIDERABLE FLEXIBILITY AS TO SPECIFIC
 TECHNIQUES, BOTH OF COST MEASUREMENT AND OF LOAD MANAGEMENT, ^{AND} ~~THE~~ THE
 BASIC END OF PRICING UTILITY SERVICES TO MEET COSTS IS NOT SUBJECT TO
 SERIOUS DISINTERESTED DISPUTE.

THIRD, AN INDICATION OF A FIRM FEDERAL COMMITMENT IS AS NECESSARY IN
 THIS FIELD AS IT HAS BEEN IN ENVIRONMENTAL LEGISLATION ^{IN ORDER} ~~TO~~ TO AVOID A LOWEST
 COMMON DENOMINATOR TENDENCY AMONG THE STATES.

PROGRESS IN RATE REDESIGN HAS DEFINITELY BEEN HAMPERED IN THE
 NORTHEAST BY A CONCERN THAT OTHER STATES WILL SUBSIDIZE INDUSTRIAL
 RATES TO ATTRACT INDUSTRY.

SINCE THE NORTHEAST HAS SOME OF THE MOST SEVERE ENERGY PROBLEMS AND
 SOME OF THE MOST SEVERE ENVIRONMENTAL PROBLEMS, THE POSSIBILITY OF LOSING
 MORE INDUSTRY IS A REAL BARRIER TO INNOVATIVE RATE DESIGN.

*

*

*

THOSE ASPECTS OF THE BILL THAT EMPOWER AND FUND THE FEDERAL GOVERNMENT OR STATE CONSUMER GROUPS TO INTERVENE TO PURSUE RATE DESIGN ISSUES ARE A LOGICAL OUTGROWTH OF THE DESIGN OF THE BILL, AND I SUPPORT THEM EXCEPT THAT I WOULD RATHER SEE THE PROPOSED OFFICE ^{OF} ~~BE~~ ELECTRIC UTILITY RATE-MAKING ASSISTANCE FUND SUCH INTERVENTIONS OUTRIGHT THAN SEE THEM DEPEND IN WHOLE OR IN PART ON THE INTERVENOR'S HAVING PREVAILED ON ONE OR MORE ISSUES. THIS LAST APPROACH INVITES A COMMISSION TO REWARD OR PUNISH INTERVENORS IN THE SUBSTANTIVE OUTCOME, WHICH IS BOUND TO HAVE UNDERSIRABLE SIDE EFFECTS.

I AM CONSIDERABLY LESS ENTHUSIASTIC ABOUT THE REST OF THE LEGISLATION, THAN ABOUT THE LOAD MANAGEMENT SECTIONS.

I CAN SEE NO JUSTIFICATION FOR A FEDERALLY MANDATED APPROACH TO LIFELINE (SEC. 203 (A) (3) (A)] TO UTILITY ADVERSITY, [SEC. 203 (A) (4) and (A) (5)], TO STATE HEARING AND NOTICE PROVISIONS [SEC. 203 (A) (4) AND (B)]

TO AUTOMATIC ADJUSTMENT CLAUSES [SEC. 203 (B) (2) (A)], TO CONSTRUCTION
WORK IN PROGRESS [SEC. 203 (C) (1)] OR TO CUSTOMER DEPOSITS AND TERMINA-
TIONS OF SERVICE [SEC. 401 (C) (1)].

AS I INDICATED EARLIER, I OPPOSE THE INCLUSION OF THESE ITEMS NOT
BECAUSE I THINK THAT THEY ARE WRONG IN PRINCIPLE BUT BECAUSE THEY ARE
OUT OF PLACE IN FEDERAL LEGISLATION.

CONSUMER CONCERN OVER THESE ITEMS SHOULD NOT BE DISTRACTED BY FEDERAL
HALF MEASURES, ESPECIALLY GIVEN THAT THOSE MEASURES THEMSELVES WILL BE
ALMOST ENTIRELY UNENFORCEABLE IN THE FACE OF THE EVASIVE DEVICES AVAILABLE
TO AN UNSYMPATHETIC STATE COMMISSION.

AS THE FEDERAL PRICE COMMISSION LEARNED IN 1972, STATE COMMISSIONS
WILL CERTIFY TO SUIT THEIR OWN DEFINITIONS, AND THE FEDERAL GOVERNMENT
CAN DO LITTLE ABOUT ANY EXCEPT THE MOST FLAGRANT ABUSES. THERE ARE FEW

SUBSTANTIVE DISALLOWANCES THAT A COMMISSION CANNOT CIRCUMVENT BY
 RAISING THE ALLOWED RETURN ON EQUITY, AND WHO ~~HE~~^{COULD} SAY THAT SUCH AN
 INCREASED RETURN IS NOT A SINCERE ASSESSMENT OF INCREASED RISK. TIME
 SPENT TRYING TO ASSESS COMMISSION INTENT IS LIKELY TO BE ~~WASTED~~ WASTED.

MORE IMPORTANTLY, HOWEVER, I'M NOT PERSONALLY READY TO SAY THAT WE
 NEED EVEN A MINIMUM UNIFORM NATIONAL POLICY IN THESE AREAS.

I DO NOT SEE A NATIONAL HARM IF MAINE REJECTS LIFELINE, ALLOWS
 CWIP, OR PERMITS UTILITY ADVERTISING TO BE AN OPERATING EXPENSE.

I DO SEE NATIONAL HARM IN HAVING CONCERNED CITIZENS LOOKING TO A
 CUMBERSOME AND FOREDOOMED FEDERAL MACHINERY FOR SOLUTIONS INSTEAD OF
 FOCUSING ON REFORMING THE REGULATORY PROCESS CLOSER TO HOME.

ONE FINAL QUIBBLE: SECTION 203 (c) (1) (B) PROHIBITS STATES FROM
 EXCLUDING POLLUTION CONTROL EQUIPMENT FROM RATE BASE.

SUCH AN EXCLUSION WOULD CLEARLY BE UNCONSTITUTIONAL IF THE EXPENSE

WERE PRUDENTLY INCURRED, AND I CAN SEE NO GOOD REASON FOR THE EXISTENCE OF THIS SECTION.

IN CONCLUSION, THEN, I WHOLEHEARTEDLY SUPPORT THE HEART OF H.R. 12461, WHICH WOULD MAKE A CLEAR CONTRIBUTION TO RATIONAL NATIONAL ENERGY POLICY,

HOWEVER, THOSE SECTIONS THAT GO BEYOND THE ENCOURAGEMENT OF MARGINAL
AND LOAD MANAGEMENT
COST PRICING, HOWEVER ATTRACTIVE THEY MAY BE AS CONSUMER PROTECTION MEASURES IN SOME AREAS, SEEM TO ME TO BE UNWISE DISTRACTIONS FROM THE IMPORTANT AND INNOVATIVE ESSENCE OF THE ELECTRIC UTILITY RATE REFORM AND REGULATORY IMPROVEMENT ACT.

.....

STATEMENT OF

W. DONHAM CRAWFORD, PRESIDENT
EDISON ELECTRIC INSTITUTE

BEFORE THE

SUBCOMMITTEE ON ENERGY AND POWER

OF THE

HOUSE INTERSTATE AND FOREIGN COMMERCE COMMITTEE

MARCH 30, 1976

TESTIMONY ON BEHALF OF THE EDISON ELECTRIC INSTITUTEONH.R. 12461 - THE ELECTRIC UTILITY RATE REFORM
AND REGULATORY IMPROVEMENT ACTBEFORE THESUBCOMMITTEE ON ENERGY AND POWER OF THE
HOUSE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCEMARCH 30, 1976Introduction

My name is W. Donham Crawford. I am President of the Edison Electric Institute, the principal national association of investor-owned electric utility companies. The member companies of EEI serve some 99 percent of all customers of the investor-owned segment of the electric utility industry, and 77 percent of the nation's electricity users. We appreciate this opportunity to present our views on H.R. 12461.

My comments today will cover generally the major provisions of H.R. 12461. Specific provisions will be addressed in greater detail by other witnesses from the investor-owned electric utility industry during these hearings.

We believe that passage of H.R. 12461 would have a severely adverse effect on the ability of the electric utility industry to provide the nation's electric power requirements. There is no questioning the fact that the extraordinary inflation of recent years and especially the dramatic rise in fuel costs have created severe problems which have sorely tested both the industry and its state and local regulators and have had a serious impact on consumers.

However, we believe that these problems can best be resolved through the existing state and local structure of regulation without Federal mandates. This structure, which relies on the competence of state government, has proven its validity over nearly three quarters of a century and there is no reason to doubt that it will continue to do so.

Reform of Rate Structures

Implicit in the requirements set out in the bill are several assumptions which are open to serious question or are patently wrong.

One is that large users are somehow being subsidized by small users because it is presumed that large users are responsible for peak load growth with its attendant higher costs. Existing evidence suggests the contrary. Large industrial customers normally have higher load factors than residential customers and their growth in electricity consumption over the past 10 years has been at a lower rate. Between 1964 and 1974 total annual sales to residential users increased from 262 billion Kwh to 555 billion Kwh, or by some 293 billion Kwh/year. The average annual percentage increase over this period was about 7.8%/year. By comparison, annual sales to industrial customers increased from 409 billion Kwh in 1964 to 689 billion Kwh in 1974, an absolute increase of only 280 billion Kwh per year, at an average annual growth rate over the period of only 5.4%. Moreover, some of the growth in industrial usage was on an interruptible service basis which assured its being off peak. Taken together, these statistics indicate that the growth in demand experienced in recent years cannot be attributed solely, or even primarily, to the larger users.

Another assumption implicit in the bill is that determination of marginal costs will be sufficiently precise for ratemaking purposes. Sufficient precision might eventually prove to be possible but there is by no means agreement at present on the proper method for establishing such costs which will, by definition, have to be estimated. Furthermore, the assumption that average embedded costs based on a future test period will prove inadequate as a basis for equitable rate-making is itself open to doubt. While incremental costs of generation have been trending rapidly upwards in recent years, it is hoped that this trend will be moderated or actually reversed by increasing reliance on nuclear generation. Moreover, incremental costs of distribution and transmission are, and seem likely to continue to be, fairly stable. If this is the case, the difference between historic costs and incremental costs will not be as great as has been represented.

The question of marginal costing and how it may be applied as a ratemaking tool is one of the major topics now being investigated by Edison Electric Institute and the Electric Power Research Institute in their joint study on electric utility rate design being conducted for the National Association of Regulatory Utility Commissioners (NARUC). As part of the analysis of marginal or long run incremental costing, attempts will be made to apply these techniques on a trial basis to data obtained from selected utilities. Until these studies are completed and the effectiveness of the methodologies evaluated, it would be a serious error to mandate the use of marginal cost as a basis for rate design.

Automatic Adjustment Clauses

The importance of fuel adjustment clauses as a means of maintaining the financial viability of electric utilities should not be

underestimated. The exposure to foreign oil price uncertainties, which many utilities will face for years into the future, makes the use of such mechanisms imperative if the industry is to serve the growing electricity needs of the economy. Restrictions on the use of fuel clauses, like those contained in H.R. 12461, would so damage the financial condition of some utilities that they would find it difficult to continue operations. State and local regulators have it fully within their power to audit and monitor the use of automatic adjustment mechanisms and Federal controls are simply not necessary.

Lifeline Rates and Variances

Mandating the implementation of lifeline or "subsistence quantity" rates for residential users is not the way to bring relief from the high costs of all forms of energy which now burden some low income individuals. It would mark a drastic departure from cost based ratemaking which this legislation purports to advocate and would, in many instances, result in higher costs for the very customers it is intended to help. Low income households are not necessarily minimal users of electricity and frequently are served not on residential rates but under master metered conditions by public or private housing complexes which purchase the electricity at industrial or commercial rates.

A more balanced and rational approach to meeting the financial needs of low income persons would be through direct governmental assistance such as the issuance of utility stamps.

Artificially manipulating the rate structure to permit individual customers or groups of customers to obtain variances from established rates on grounds of economic hardship would politicize ratemaking,

especially for residential service, to such an extent that discrimination between similar customers would become commonplace. The cost of administering and policing the granting of variances would have to be borne by those customers who either did not qualify for variances or who lacked the political influence needed to obtain them.

Load Management Techniques

The use of electronic and mechanical control devices in addition to price mechanisms to influence customer's usage patterns undoubtedly has considerable potential for reducing the growth of peak load. However, much remains to be learned about the cost effectiveness and reliability of such equipment, as well as about the willingness of customers to accept the constraints on their living or business habits which the use of these devices could entail. It is for this reason that the EEI/EPRI study on rate design is also focusing on the subject of load management and is attempting to assess both the customer's willingness and capability to accept certain limitations on his pattern of electricity use.

In addition to the EEI/EPRI effort on behalf of NARUC, several state regulatory commissions are conducting generic hearings and studies on load management or are actually engaged in various field experiments, some with support from FEA. Considerable study and testing remain to be done. As in the case of marginal costing, attempts at mandating such measures before a better understanding of their consequences is obtained could be severely detrimental to electricity users and suppliers.

Additional Reporting Requirements

One of the assumptions frequently underlying proposals for regulatory reform such as H.R. 12461 is that additional reporting requirements are necessary to render regulation more effective. This is all too often an erroneous assumption and results in superfluous and duplicative work for both the regulators and the utility being regulated. It frequently results as well in inordinate expenditures of time and money to collect information of marginal or no value and the cost of this useless work must ultimately be paid by the electric consumer.

Many of the reporting requirements specified in Section 205 dealing with the Determination of Cost of Service are subject to such criticism because they are already covered in reports made to the FPC. Others, such as the requirement to forecast system loads on an hourly basis by customer class for ten years into the future are likely to entail such a large element of speculation as to be useless for planning purposes.

Participation in Regulatory Proceedings by Electric Consumers

Adequate provision for the expression of consumer views in rate hearings is vital to effective regulation, a fact that has long been recognized by regulators. However, if the mechanisms for representing consumer interests merely create delays without benefiting the consumer, the goals of effective regulation will not be achieved and the ability of utilities to provide adequate and reliable service will eventually be undermined. The sections of H.R. 12461 which address consumer representation do not appear to enhance the already substantial procedures available to consumers in most states. The potential for regulatory paralysis contained in sections 208 and 209 will not serve the interest

of the majority of customers and will undoubtedly be used by those opposing energy development for reasons that have nothing to do with rate regulation. In particular, the provisions for intervention subsidies and access to prolonged judicial appeal represent an open invitation for abuse.

Regulation by the FPC

The proposals contained in this legislation which would enlarge the rule of the FPC in state and local regulation are ill-advised from two standpoints. On the one hand, they will further complicate already complex regulatory processes and require the FPC to develop an expertise on local questions at least equal to that of the local commission in question. On the other hand, they will burden the FPC with tasks of additional data collection, standard setting, and enforcement review which will render it more difficult for the Commission to discharge its primary responsibilities in the field of wholesale rate regulation.

Regulatory lag at the FPC level is already considerably greater than at the state level and is increasing. Based on statistics collected through the EEI Quarterly Electric Rate Case Decision Data Survey, the average rate case decided by the Commission in 1974 required 18 months to complete and during the first 9 months of 1975 the average lag had grown to about 22 months. State commissions, however, succeeded in reducing their average 1974 lag of 10.5 months to only 9 months during the first three quarters of 1975.

In addition to provisions which can only further hinder the FPC's functioning in a timely manner, those sections of the proposed Act which would limit the use of adjustment clauses and rule out inclusion of

construction work in progress (CWIP) in the rate base will compound the enormous capital raising problems facing utilities. The result eventually would be either higher rates to the consumer or inadequate electric service. We view including CWIP in the rate base as an essential element in meeting the capital needs associated with growing electricity requirements and helping the nation reduce its dependence on foreign energy supplies. The importance of this element was outlined in great detail during the March 8, 1976 hearings conducted by the FPC in New York. Legislating the exclusion of CWIP in the rate base for wholesale rates, or limiting its inclusion by state authorities as this bill does, can only be detrimental to the long run interest of electricity customers, their electricity suppliers and the nation's energy security.

Requirements limiting utilities to one increase request pending before the FPC will exacerbate the other harmful effects of provisions contained in Title III. They are particularly ill-advised in light of the unusually long lags now being experienced in the disposition of wholesale rate cases. The failure of utilities to obtain adequate and timely rate relief, as has been demonstrated so convincingly in the past, can only lead to needlessly higher rates in the future.

Reliability and Quality Control Standards

Quality control and reliability have historically been of primary concern to electric utilities in this country and the industry's record of reliable service reflects the wisdom of that approach. Through the National Electric Reliability Council (NERC) and its affiliated regional

councils, both the investor and non-investor owned segments of the industry have created continuing programs to assure that high standards are developed and maintained. The requirements set out in Sec. 309 of the bill would therefore do little to advance the quest for still higher reliability and only add one more costly reporting burden on the utilities and FPC.

Financial Assistance to State Regulatory Authorities

The use of Federal funds to assist the operations of state and local regulatory authorities will inevitably lead to subsidies flowing from some states to others and will mean that taxpayers in states which have adequately financed their own regulatory protection will be burdened by the failure of those states which have not. In addition to this question of interstate equity, some of the planned uses for Federal assistance outlined in Title IV of this legislation would not contribute materially to improved regulation in any state. Grants for consumer representation would likely serve only to augment the potential for delay built into Section 8 of Title II and the grants earmarked for rate structure innovation would duplicate a substantial amount of work already being funded by utilities, state commissions, state energy agencies, and the Federal Energy Administration.

Coordination of Planning and Siting of Bulk Power Facilities

Title V of the bill contains reporting requirements for long range planning which would duplicate most of the requirements currently being met under FPC Order 383-3. This order calls for submission of detailed 10-year plans as well as conceptual plans for 20 years into the

future. To report, as the bill requires, a plan for bulk power facilities on which construction will only be started within 10 years would require definitive plans for 15 to 18 years into the future. Because of uncertainties in load growth, costs, and other socio-economic changes, specific plans for such distant time horizons cannot be developed with any assurance that they will be realized. Submitting only one of the many possible alternatives for expansion would lead to confusion.

Burdening the FPC with the task of establishing regional planning councils would mean a wasteful use of Commission time and resources, given its existing collection of industry expansion plans and the work being done by NERC which already includes planning within and among regions.

The bill's effort at streamlining and consolidating Federal approval of new facility siting is to be commended in principle. It represents a constructive attempt to tackle one of the major causes of rising electricity costs, namely the lengthening of bulk power facility construction lead time. Time, as Franklin said, is money and it can be an enormous amount of money when the weighted cost of new capital exceeds 10% and more than 10 years are required to plan and build a nuclear plant. Hopefully, the intent spelled out in Section 502 will be pursued in a context other than this specific piece of legislation.

Summary

Our review of H.R. 12461 clearly indicates that Federal action in the field of electricity utility regulation is not needed. Any steps toward improvement of the existing regulatory structure are best handled

within that structure by the responsible state and local governments. These governments, their regulatory bodies, and the utilities they regulate are actively engaged in a major effort to assure that costs are kept as low as possible and that these costs are borne by consumers in an equitable manner. We feel confident that this effort will succeed if the Federal government does its part to reduce the overall inflationary pressures affecting the American economy and to define a coherent national energy policy which will allow utilities and other energy suppliers to plan rationally for the future.

TESTIMONY OF RONALD S. WISHART, ON BEHALF OF ELCON,
REGARDING H.R. 12461

My name is Ronald S. Wishart, Director of Government and Public Issues, Energy Supply and Services of the Union Carbide Corporation. I am also Executive Director of the Electricity Consumers Resource Council (Elcon). I am grateful for the opportunity to address this Subcommittee on behalf of Elcon. Since Elcon may be an unfamiliar name to many of you, perhaps the best way to begin would be for me to tell you about Elcon and then set forth Elcon's viewpoint on the issues of electrical rate regulation in general and H.R. 12461 in particular.

Elcon is an unincorporated trade association composed of ten industrial electrical consumers. The members are Airco, Inc., Air Products and Chemicals, Inc., Allegheny Ludlum Industries, Inc., Anheuser-Busch, Inc., Diamond Shamrock Corporation, FMC Corporation, Olin Corporation, PPG Industries, Inc., Stauffer Chemical Company, and Union Carbide Corporation.

As can be seen from this list, these companies manufacture chemicals, glass, steel, machinery, plastics, and beer, among other things. The concern that brought this group together and animates it is the same concern that engendered H.R. 12461. Industrial consumers, like all consumers, have suffered the recent dramatic increase in energy costs. Since 1971, Airco, one of our members, has suffered a 100 percent increase in its electrical rates. From 1972 to 1975, the electrical rates of PPG's Chemical Division

rose over 150 percent, and last year alone, Union Carbide's electrical rates were up 27 percent and it expects similar increases in the future. The experience of other members and of industry in general has been similar. Industrial consumers, like all consumers, want adequate, reliable, and fairly priced electricity. We feel, as you doubtless do too, that proper rate structure is an important part of any response to these concerns.

But it is also important to view rate design in its proper perspective, and to recognize the impact of rate design on the broader problems of supply and demand, and of overall costs of energy.

Rate structure has not been the reason for the recent and dramatic increases in energy costs. The overall level of energy costs have gone up mainly because of rising fuel costs, general inflation, higher interest rates, pollution abatement costs, and other regulatory costs. A mere change in rate design cannot counteract these trends or contain overall electrical costs.

The function of rate design is to apportion these costs among users in a way that is nondiscriminatory, rational, and efficient. We feel, however, that the approach taken in H.R. 12461 would be counter productive in terms of these goals. It is our strong feeling that any federal directive on rate design would be ill-advised and that problems of rate regulation should be left to the states; in particular, we feel that H.R. 12461 would alter and unsettle rate regulation in a way that would erode both the fairness of the rates and the reliability of supply.

Advisability of Federal Definition of Ratemaking Standards

Before attempting an overarching federal definition of the proper standards of electrical ratemaking, it is necessary to be aware of the situation we are dealing with. Utility regulation and particularly electrical rate regulation has always been a state rather than federal function for two very good reasons. First, electrical rate and electrical supply are matters which touch directly on basic social and economic issues within the state. Second, the relevant considerations in rate regulation vary tremendously, not only from state to state, but from utility to utility. The customer mix of the utility, its equipment and costs, the availability of various fuels, its load factor and peaking time, etc., are all relevant issues, and all will differ from one utility to another. The state regulatory commissions have been doing the job for a long time and the results have been very good overall; while improvement is always possible, the extreme variations in local conditions and problems makes it unlikely that overarching federal legislation would be as effective or as sensitive to local conditions and problems, as local regulation.

Presently, many states are assessing the rate design ideas embodied in H.R. 12461: marginal cost pricing, peak-load responsibility and lifeline rates.

In connection with state efforts to assess and define these issues in rate cases and studies, other interested groups have undertaken studies of their own. Elcon has commissioned a study to be carried out by Jensen Associates, Inc. and other consultants

which will attempt to predict what impact rates based on incremental cost principles would have on the economy as a whole. This study is calculated to produce the kind of data which is absolutely necessary to assess the rate changes proposed in this bill; and the information is just not available now.^{1/}

In addition to this new Elcon study, over 125 people from electric power organizations, industry, and federal and state agencies are actively involved in the one-year, \$1 million study on electric rate design being conducted jointly by the Edison Electric Institute and the Electric Power Research Institute (EPRI) at the request of the National Association of Regulatory Commissioners (NARUC). The purpose of this study -- which got under way in September 1975 -- is to explore the feasibility and impact of the kind of changes which H.R. 12461 proposes. The ten task forces into which the project is divided are all underway; over \$650,000 in consulting contracts have been let or are under negotiation; the rate design research effort is now going forward; preliminary reports from some of the task forces are expected later this spring, and a preliminary overview report of the entire project should be available in November 1976. On an issue where so much knowledge which seems necessary is lacking, there is nothing to be lost and a good deal to be gained by waiting for the results of this study and others carried on by Elcon, the various states, and by the Federal Energy Administration. As it now stands, H.R. 12461 will have the effect of prejudging and stifling an ongoing and necessary assessment.

^{1/} See Exhibit 1.

Moreover, the states should be allowed to assess these rate design ideas in light of their own experience, priorities, and conditions. It would seem that this is a textbook case of the virtues of federalism. All across the country, states and utilities have been presented with batteries of rate design ideas and theories. In attempting to assess these ideas and to test them against their own situation, the state regulatory commission necessarily is contributing to the understanding of the issues for all other states. It must be emphasized that the practicality of these untried theories remains, to a good extent, untested; and that the impact of the rates produced on the economy and society is unknown. It is an excellent opportunity for the states to serve as a laboratory to test various approaches. It seems rather backwards to order nationwide implementation of the theory first and assess what it does or if it is practical afterward. We are all aware of unproductive approaches of this nature ranging from the automobile seat belt interlock to new math.

These arguments are particularly compelling when they are considered in light of the federal track record of regulation. Regulatory goals have in the past been too diffuse and regulatory procedures too confusing, because the problem had not been adequately defined before it has been entrusted to the administrative agency and because Congress has been unable to concentrate and define the necessary responsibility and authority. It was observed recently that Congress has enacted 46 separate laws dealing with

the energy crisis. I would submit that H.R. 12461 is a further example of just this sort of failure in both substance and procedure.

The Advisability of the Policy of H.R. 12461

The philosophy of H.R. 12461 seems to be that it is necessary to brake the growth of electrical demand and electrical costs by the use of pricing principles which load a disproportionate amount of the cost burden on large industrial consumers. I am here speaking specifically of marginal cost pricing principles and life-line rates.

We reject the idea that energy or rate design problems can profitably be approached by shifting a disproportionate share of the costs to any one consumer class; or that the only way to deal with electrical supply problems is to brake economic growth so that less energy is demanded. The social and economic costs of these alternatives make them unacceptable. It must be remembered that costs passed disproportionately on to industry will ultimately pass through to the consumer of industry's products. Alternatively, industries faced with disproportionate energy costs might simply be unable not to expand, or to produce certain products on the basis of inflated energy costs, and there would be fewer jobs available.

A policy calculated to halt the growth of electrical demand would, we believe, be misguided. Electricity is absolutely vital both for industrial operations and for American home life.

Growth in electrical demand has historically been linked to growth in GNP and there is no indication that this correlation will change. Current information about the availability of other sources of fuel indicates that the future American society will become more, rather than less dependent on electricity. There certainly is no consensus in favor of a static economic system and no plan for dealing with the tensions that arrested economic growth would engender.

We are confronted with a basic problem of energy supply and demand in the United States; the cheap energy which has been taken for granted for so long has become vastly more expensive. This is a condition which is likely to continue and to which all users must adjust. It is neither wise nor practical to attempt to keep one class of consumers in the cheap energy past by piling the future cost increases of serving that class on other consumers.

Elcon certainly does not wish to take a negative stance on the broad problems of electrical supply and demand that face this country; we are not advocating haphazard and ill-considered growth of electrical capacity or taking an anti-intellectual attitude toward economic theory. Industry in general and Elcon members in particular have been in the forefront in pressing innovative ideas of energy conservation and load management, such as steam sales by industry and interruptible electrical rates. Nor do we attack economic theory as such; marginal cost theory is widely used in industry as a tool to decide between alternative investment

strategies. What does trouble us is that there is no firm theoretical or practical indication that marginal costs are beneficial as the basis for pricing in the specific circumstances of the electrical utility industry.

Rate design with marginal cost and lifeline features is said to be necessary because current rate setting practices constitute a subsidy to large industrial consumers and provide an incentive to those consumers to waste. Examination of the cost basis of declining block rates will reveal that their arguments betray a misunderstanding of both costs and conservation; scrutiny of marginal and lifeline rates will reveal that they are objectionable for far more substantial reasons.

Current Rate Setting Practice and Declining Block Rates

Since the various state regulatory commissions now have authority over rate structure in their respective jurisdictions, rate structure varies from state to state. Generally, however, rate structures in effect today reflect declining block features -- i.e., the more electricity a consumer uses, the less is his rate per kilowatt hour (kwh). The contention of marginal cost and lifeline advocates is that these features are necessary to cure the "defects" of declining block rates.

Nonetheless, it is indisputable that declining block rates reflect the realities of a utility's incurred costs.^{2/} Distribution costs are markedly less for large users; the transmission facilities are much less expensive than the myriad of small lines needed for residential consumers, and the transmission of energy at the high voltage associated with large volume use is far more efficient. Irwin Stelzer of National Economic Research Associates (NERA) has estimated in testimony before the Florida Public Utilities Commission that about 40% of most utilities' total fixed costs are distribution facilities and that relatively little of these costs are at all applicable to large industrial sales.^{3/} Also, customer charges, which include the costs of hook-up, billing and metering, are the same gross amount for each consumer no matter how much energy he uses. In the case of high volume usage, these costs are spread over more hours thus producing a lower unit cost.

Those who do contend that industrial users get a free ride or preferential treatment at the cost of residential consumers have simply not considered these realities of costs. The first-hand experience of Elcon members in rate cases is that a utility company's

^{2/} See generally C. W. Bary, Operational Economics of Electric Utilities, (Columbia Univ. Press, 1963); R. E. Caywood, Electrical Utility Rate Economics, (McGraw Hill Books, 1956); see also J. E. Smith, Jr., Optimal Rate Structures and the Electrical Utility Problem, (Report to NARUC, October 8, 1974); J. W. Wilson & R. G. Uhler, Inverted Utility Rate Structures: An Empirical Analysis, (March 18, 1974).

^{3/} Testimony Before the Florida Public Service Commission, Docket No. EU-73694 (Tallahassee, Florida, February 19, 1974).

yield on investment will almost invariably be higher on industrial than on residential load^{4/}. A recent example is the Delmarva Rate case where cost of service studies indicated that the rate of return on industrial service was greater than both the overall and the residential rate of return^{5/}. At a 1975 symposium on utility rate design held in Kansas City, Missouri, Mr. Henry Herz, a senior vice president of Foster Associates, Inc.,^{6/} stated that he had never seen a fully distributed cost study which indicated that residential services made an overcontribution to revenues. The added cost of serving a strictly residential load is emphasized by an item which appeared in Electrical Week on March 9, 1975. Long Island Lighting Company has a very high ratio of residential consumers; in a recently released efficiency study, this fact was linked with the fact that, of the companies studied, Long Island had the highest operating and maintenance expenses (excluding fuel) per customer.

Nor will the claim that declining block rates to industrial consumers are an incentive to "waste" electricity stand up to critical scrutiny. Waste generally means that something is over-

-
- 4/ See R. Caywood, "Electric Utility Rate Making - 1922, 90 Public Utilities Fortnightly 13, 15 (1972); see also J. Doran, et al., Electric Utility Cost Allocation Manual, (Washington, D. C., NARUC, 1973).
- 5/ Delmarva Power & Light Co., Delaware, P.S.C. Docket No. 829, Delmarva Exhibit No. 17; Main Brief of Airco at 11-22 & Exhibit MEB-1 (January 1976).
- 6/ Foster Associates is a prestigious firm of utility consultants very active in rate matters.

used as a result of underpricing. If, as we have seen, declining block rates accurately reflect the economies connected with more intense use of capacity and facilities, then the lowest-priced or tail block of energy is neither "underpriced" nor "wasted."

By virtue of the necessity to compete, industrial consumers are highly cognizant of the need for efficiencies in the use of electricity. Electricity is a cost element in the production process; as with other cost elements, the competitive position of a company will be strengthened if it is able to minimize energy costs by cutting down consumption, and its competitive position will suffer to the extent that its energy usage is inefficient. It should be noted, moreover, that electricity is the most expensive source of energy available to industry in terms of cost per BTU. The necessity to compete in the market provides a constant source of pressure to minimize costs and a constant source of feedback on how well it is being done.

For example, one division of Union Carbide has installed a mini-analog computer system in a number of its plants. The computer monitors power input and product output and indicates when the relationship is less than the optimum so that steps can be taken to correct the situation. Union Carbide has also installed at some of its plants computers which control the demand of its plants in order to control the load factor and reduce overall demand of the plant. Stauffer has recently started a multi-million dollar modernization program at its chlorine-caustic soda plant in Henderson, Nevada; the program is

designed to cut electrical consumption by "at least 20 percent." The programs of the FEA and the Commerce Department directed at fostering energy efficiency in industry have achieved substantial success precisely because of the cost-consciousness and expertise of industry; attention can be readily focused on improvements and there is presently cogent economic incentive to undertake them.^{7/}

What I am trying to make clear is that the declining block structure is not a subsidy to the large industrial user and there is no indication that the current situation of industrial usage of electricity is marked by inattention to electrical costs or waste of electrical energy. Industry uses energy, not perfectly, but productively and carefully.

The Proposed Changes

It is difficult to see how this situation would be improved by marginal cost or lifeline rates. In Elcon's view, these rate design features would destroy accountability of the regulator, depart from the cost basis for rates, and would have a harmful impact on the economy overall.^{8/}

^{7/} See 135 Energy Users Report, pp. 7-9 (March 11, 1976) detailing successful efficiency initiatives developed by FEA and the Commerce Department in cooperation with industry. Under the Energy Policy and Conservation Act, P.L. 94-163, the FEA is directed to establish and maintain a program to promote increased energy efficiency in the ten most energy consumptive industries; and the profit motive and industry regard for its own costs are relied upon to motivate industrial achievement of goals.

^{8/} See Exhibit 1.

The impact of long run incremental costing (LRIC), the most popular adaptation of marginal costing in this area, on the economy as a whole and on industrial consumers in particular is very hard to predict. Industry does, however, have valid cause for concern. Speaking at a rate design conference in Kansas City in February 1976, Robert Sarikas of Foster Associates^{9/} indicated that large industrial consumers get "drilled" by implementation of LRIC, and indicated that in a particular study he did the rate increase to industrial users, under LRIC costing, ran as high as 75 percent. Needless to say Elcon finds this prospect very troubling. This kind of differential impact on industrial consumers, which is a result of dragging future cost increases into the present, might well reverberate through the economy as a whole, and one of the studies which Elcon is currently funding is designed to assess the economic impact of putting a disproportionate amount of the costs of electricity on industry. To a large extent, of course, this burden will reach the public in the form of increased costs of goods and reduced job opportunities. The quantitative effect of such rate changes in inflation, investment forgone, and jobs lost cannot be assessed without a detailed analytic study. It is^{10/} Elcon's present feeling that those effects would be substantial.

^{9/} See note 6, supra.

^{10/} The study headed by Jensen Associates is designed to quantify these effects. See Exhibit 1.

Take for instance a utility like Long Island Lighting whose consumer group is disproportionately made up of residential consumers. The relatively lighter industrial load would presumably cause a greater proportionate burden of costs to be loaded on industrial consumers.

Despite all the dangers and inconsistencies of LRIC pricing, it is still asserted that it is the best approximation of the "optimal economic" price, and advocates point to the alleged success of European utility systems, specifically the British and the French, as examples of successful implementation of marginal cost pricing principles. I have attached as appendices to this testimony two reports on the European experience in rate design, one by Joseph Cleary of Airco,^{11/} one of Elcon's member companies, and the other by Dr. Hans Nisse.^{12/} These reports, if examined fairly, refute claims of success for marginal cost pricing and the idea that European experience can operate as a model in the United States. The fact is that both the British and the French are state-owned systems that operate at a deficit. Secondly, neither system can claim achievement of the goals set for marginal pricing practice.^{13/}

A useful comparison identified by the Cleary report is the Tennessee Valley Authority (TVA), an example of a government owned

^{11/} Exhibit 3.

^{12/} Exhibit 4.

^{13/} See Exhibits 3 and 4.

utility like those of Britain and France.^{14/} Comparison of TVA experience with the British experience is instructive. Although the British utility pays no taxes, operates at a deficit, and has an indigenous nationalized coal supply, its revenue per kilowatt hour is twice that of the TVA, which buys coal from profit-making producers (over 80 percent of TVA power production is thermal and not hydro), pays substantial sums in lieu of taxes, and realizes a profit. In light of these facts, it is hard to believe the European precedents indicate the right path for America to follow.

Peak Load Pricing

The concept of peak load pricing is, in itself, a totally different matter from marginal cost rates. Industry has for years encouraged and benefited from off-peak rates such as night-time rates designed to encourage consumers to use otherwise unutilized capacity and thus better the utility's load factor. A rational rate structure can certainly take account of the peaking of demand and utility load without any reliance upon marginal cost.^{15/}

In H.R. 12461, however, the concept of peak load pricing is used in two ways which may be inconsistent, and it is yoked to the concept of marginal cost pricing, which is unnecessary.

Under Section 205(a), peak load pricing is to be used to allocate cost responsibility to consumers.

^{14/} See Exhibit 3.

^{15/} See Exhibit 2.

Under Section 204(b), peak load pricing is to be used to drive load off the peak.

In both sections it is specified that peak load differentials are to be based on marginal cost principles.

A central problem is that the price which reflects the cost of peak use, under marginal principles or any others, is not necessarily the same price which would be enough to drive load off the peak.

Insofar as the peak load concept is used to allocate system costs, it is not necessary that marginal cost principles be used. Electrical rates based on incurred costs can reflect the extra costs of service at the peak. Utilities have done so successfully for years; interruptible or curtailable rates are a form of peak load pricing. Exhibit 5 contains the direct testimony of Edward V. Sherry of Air Products and Chemicals, Inc. in a Delaware electric rate case in which he discusses the interruptible rate "Schedule Q" offered by Delmarva Power and Light, which has historically been an important reason for the high load factors achieved by that utility.

However, if mandatory peak load pricing is assessed only against one class of consumer, it raises the prospect of inequity and inefficiency. Present peak load pricing proposals are seemingly being confined to large industrial users because the cost of metering smaller users seems prohibitive. This approach ignores the fact that the irregularity of residential demand is substantially responsible for peaks and valleys in overall demand. If industrial

users are the only ones who pay peak demand charges, industry will end up paying for the costs of other consumers' demand.

This effect is intensified if marginal cost principles are used to derive the peak rate. Importation of marginal cost principles serves to make the rate differential inflicted on the peak industrial user even more unjustifiably high. It is particularly unjustifiable since peak load pricing and its benefits can be reliably achieved without the questionable importation of marginal cost principles.

The problems of equity and predictability in connection with use of peak load pricing as a cost allocation device are multiplied when it is used as a punitive device to drive load off peak. It is unclear to what extent Section 204 authorizes state regulatory commissions to load costs on peak users beyond that justified by cost of service. What does seem clear is that if peak load pricing is supposed to control demand rather than reflect costs, there are more effective techniques available. In order to use peak load pricing signals effectively to move demand off peak, it is necessary to know two things which are not now known. First, it would be necessary to define the peak in advance with some particularity if it is to be expected that people would plan their behavior to avoid electrical use at that time. Second, it would be necessary to know the elasticities of consumer demand in order to know the right price to drive a sufficient number of consumers off the peak. Deriving these facts for any given utility is a major task and it is unclear based on present evidence how reliably it can be done.

Beyond these problems of computation, the policy of punitive peak load rates is particularly questionable when these rates are to be applied to only one consumer class. The consumer class in question, the large industrial user, must shoulder the entire burden of rates designed to drive use off the peak, while residential consumers who substantiably cause the problem continue their use at the peak subsidized by industry. Indeed, the punitive rate would have to be proportionately higher to achieve the consumption limitation goal through stifling the consumption of only one class of user.

The foreign experience, which is so frequently cited for the success of marginal time of day rates, is certainly no support for the sort of punitive peak load pricing of which we have spoken, or for tying peak load pricing only to industrial users. British time-of-day rates apply only to "domestic" or residential load, and the British are frank to admit that they could make no prediction of what effect such rates might have on industrial load. See the Cleary report in Exhibit 3.

British reaction to time of day peak rates calculated at a differential of 8 to 1 to off-peak rates, as FEA proposed in the New York Generic Proceeding, was that such a differential was "rubbish."^{16/} Dr. Nissel's examination of the West German experience suggests very strongly that direct load management rather than price signals is a far more effective way of controlling load.^{17/}

^{16/} See Exhibit 3.

^{17/} Exhibit 4.

The testimony of Mr. Sherry in the Delmarva rate case demonstrates that an interruptible rate can operate directly to better load factor without loading punitive burdens on one class of consumer.

Peak load pricing in the form of interruptible or curtailable rate and night/day differentials have been used for years to the benefit of both industry and utilities without using marginal cost principles, punitive differentials, or a markedly inequitable impact on industry. Fair rates and load control can be achieved without such drastic expedients.

Lifeline Rates

Lifeline rates amount to a subsidy from some electrical consumers to others and an ill-advised giveaway.^{18/}

No one contends that lifeline rates are related in any way to the cost-causative use characteristics of residential consumers. What is not so well known is that there is no reason to believe that such a rate helps the truly needy. Studies conducted by the Public Utility Commissions in Oregon^{19/} and West Virginia^{20/} indicate that there is no predictable relationship between low energy consumption and low income. Thus, industrial consumers are being asked to undertake a random subsidy of residential consumers. It

^{18/} See Exhibit 6 for a more extended discussion.

^{19/} See Exhibit 9: excerpts from Order 76-039, January 16, 1976, by Charles Davis, Public Utility Commissioner of Oregon.

^{20/} See Exhibit 7: Report of the Public Service Commission of West Virginia; see also Exhibit 8: Staff Reports prepared by the W. Va. P.S.C. Division of Accounts & Revenues.

is a matter of some doubt whether an industry in a heavily residential area such as the Long Island area served by Lilco, for example, could absorb the burden of increased rates and still provide the output and the jobs it does currently. Lifeline rates would certainly be a drag on the capacity to do so.

In the recent controversy over the lifeline legislation in Maryland, a number of witnesses from industry and labor testified against the lifeline bill because it would have caused a shortfall of utility revenues of from \$50-60 million which would have had to be made up from other consumers, principally industry. These witnesses testified out of concern for the impact that such a bill would have on industrial activity, jobs and prices of consumer goods in Maryland. A sign that one of the workers carried said a lot -- "Rates don't mean a thing if there are no jobs."

Conclusion

Elcon is, in sum, opposed to the rate design features of H.R. 12461 for several reasons:

1. There is no need for the current legislation because the issues are better handled at the state level.
2. The criticisms of declining block rates, which form the rationale for the bill, are unfounded.
3. There is no sufficient basis to predict that lifeline and marginal cost rates will produce any benefits over current practices and there is substantial reason to believe the effects

on the equity of utility rates and on economic growth would be harmful.

4. Structurally, we feel that the diffusion of responsibility and the vagueness of operative standards of H.R. 12461 will introduce uncertainty and confusion into ratemaking rather than making it more predictable and rational.^{21/}

We appreciate the opportunity to offer these comments. We hope they have been helpful both in indicating Elcon's viewpoint and in pointing out the reasons why there is no need for any federal legislation dealing with electric utility rates at this time.

^{21/} An analysis of the administrative structure of the bill appears as Exhibit 10.

INDEX OF ELCON EXHIBITS

<u>EXHIBIT TITLE</u>	<u>EXHIBIT NO.</u>
Potential Economic Impact of LRIC/Marginal Cost Pricing -- Testimony of Dr. Carl V. Swanson, Executive Vice President, Jenson Associates, Inc.	1
Peak-Load Pricing Based on Marginal Cost Principles -- Overview	2
"Price Signals or Load Management", article by Dr. Hans E. Nissel	3
"Summary Report on British Electric Rate Practice and Related Matters", by Joseph M. Cleary, Director - Corporate Utilities, Airco, Inc.	4
Interruptible Rates Are An Effective Load Management Device; Direct Testimony of Edward V. Sherry, Air Products and Chemicals, Inc. in <u>Delmarva Rate Case</u> , February 11, 1976	5
"Lifeline" Utility Rates - The Alleged Benefits Are Speculative - Overview	6
Public Service Commission of West Virginia First Report With Recommendations: Systems and Policies for the Pricing of Electrical Power In West Virginia, December 31, 1975	7
Staff Reports Prepared by the West Virginia Public Service Commission Division of Accounts, Finance and Rates, dated December 31, 1975 and January 20, 1976.	8
Excerpts from Order 76-039, issued January 16, 1976 by Charles Davis, the Public Utility Commissioner of Oregon	9
Memorandum Summarizing the Administrative Deficiencies of H.R. 12461	10

NOTE: THESE EXHIBITS ARE ON FILE WITH THE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE.

MARCH 31, 1976

STATEMENT OF: ROGER SANT, PANEL ON RATE DESIGN, AND
PANEL ON LOAD MANAGEMENT

STATEMENT OF ROGER W. SANT
ASSISTANT ADMINISTRATOR
ENERGY CONSERVATION AND ENVIRONMENT
FEDERAL ENERGY ADMINISTRATION

before the

Subcommittee on Energy and Power
Committee on Interstate and Foreign Commerce

on

Rate Design and Load Management

H.R. 12461

March 31, 1976

Introduction

Mr. Chairman and distinguished Members of the Subcommittee, I welcome the opportunity to appear before you today on the subjects of electric utility rate design and load management. Accompanying me today is Howard F. Perry, my Associate Assistant Administrator for Utilities Programs.

I am appearing before you today to present testimony on H.R. 12461, the Electric Utility Rate Reform and Regulatory Improvement Act. My testimony is divided into two parts, electric utility rate design and electric utility load management. At the conclusion of my remarks, I shall be happy to respond to any questions the Members wish to ask.

I. RATE DESIGN

The Nation's electric utilities comprise approximately 25 percent of our annual energy consumption in generating electrical power. Of this fraction, about 38% represents scarce oil and natural gas resources that are used as generator fuels. In 1975, more than 1.5 million barrels and more than 7.5 billion cubic feet of gas were used to generate electricity--every day. These figures represent more than 9% of total U. S. oil consumption and 15% of U. S. natural gas consumption.

Electric utilities, then, represent a major consuming sector of national energy resources. FEA is committed to conserving scarce energy resources in this critical sector, and the strategy it has chosen to pursue is to vigorously promote increased efficiency in the generation, transmission and end-use of electric energy. An increase in the efficiency with which electricity is produced and used will conserve raw energy resources and will thus represent, in a sense, a major new wellspring of energy. And, the net cost of this new-found energy will be much below that of an equivalent amount of incremental supply.

But a strategy of increasing efficiency in the electric power sector promises more than substantial energy savings. Analyses conducted for the recent National Energy Outlook indicate that such a strategy can, by reducing the need for incremental generating capacity, save at least \$60 billion in cumulative capital costs by 1985. For consumers, this

level of savings translates into an 8 percent drop in the real price of electricity.

The key element of FEA conservation policy in the electric power sector is to improve the efficiency of capacity and fuel utilization of electric utilities and, through more accurate pricing signals, the efficiency of electricity end-use by consumers. The most widely-used measure of a utility's degree of capacity utilization is its load factor, equal to the ratio of its average hourly kilowatt load to its hourly load during its annual peak demand. Since electric utilities are mandated to supply enough electric power to meet even the highest peak demands, a low load factor indicates that a utility is carrying a large, costly, and inefficient portion of capacity that is being used only a few hours each day. Load management in its generic sense describes programs and activities designed to improve the capacity utilization, or load factor, of electric utilities. The results of ignoring load management are inflated capital requirements, energy waste through the use of inefficient peaking generators, and an increase in the use of scarce oil and gas to generate electricity--since peaking units rely almost completely on oil and natural gas.

At the heart of a load management strategy is the implementation of electric utility rate structures

that reflect peak/off-peak cost differentials and therefore provide consumers with an incentive to shift portions of their electricity demand away from system peak periods. By thus reducing utility peakloads, system load factors--and consequently efficient capacity utilization--will be increased. This set of pricing signals is most commonly termed peakload or time-of-day pricing, and is one aspect of an overall approach of marginal cost pricing.

According to economic theory--which available evidence bears out in practice--electricity will be produced and consumed most efficiently when its price reflects the marginal costs of supplying it.

In simple terms, time-of-day pricing reduces the price of electricity used in off-peak periods (when the marginal cost of supplying electricity is generally lower than the average cost) and increases the price of electricity used in peak periods. (when the marginal cost is higher). As advocated by FEA, marginal cost pricing will affect only electric utility rate structures, rather than overall electricity rate levels, which must be determined by State regulatory judgments as to appropriate revenue requirements.

Electric rate structures generally in effect in the United States fail to reflect the marginal costs of supplying electricity. By this failure they also fail to achieve the three major objectives of electric rates: to meet revenue

requirements, to achieve an economically efficient allocation of resources in the supply and consumption of electricity, and to distribute equitably the burdens and benefits associated with the consumption of electricity. For the most part traditional electric rates have achieved the revenue requirement objective, since regulatory authorities have generally accorded revenue requirements primacy among the three objectives. However, during recent years the ability of traditional rate structures even to produce sufficient revenues in excess of costs has come into question with the growing imbalance between the high incremental costs of electricity capacity and the much lower historical costs in the rate base.

The record of current rate structures in achieving the other two objectives is less successful. The second objective is efficient resource allocation in the supply and consumption of electricity. When consumer electric rates reflect the costs of resource inputs necessary to supply an incremental unit of electricity, resources will be allocated more efficiently. If the price of an incremental unit of

electricity is set below its marginal cost, electricity will be oversold, and if its price is set above its marginal cost it will be undersold. In the former case more scarce resources will be committed to the production of the commodity than warranted, and in the latter case fewer resources will be allocated than are warranted. In both cases, inefficient resource allocation will result. The Nation's electric energy market today exhibits both forms of inefficient resource allocation.

Electric rates across the Nation are generally the same during all parts of the day, even though utility costs are higher during peak hours. As a result, on the one hand, peak period electricity is priced below its marginal cost and is, consequently oversold. On the other hand, electricity consumed during off-peak periods is priced above its marginal cost, and is consequently undersold.

There are two major reasons why electricity costs much more to supply during peak periods than during off-peak. First, electric utilities must have on hand sufficient generating capacity to fully meet the demands of their customers at system peak, even if this capacity is used only a few hours per day during a few months of the year. It follows that responsibility

for the cost of this capacity, i.e., the demand cost, rests with peak users of electricity. Under present circumstances, this demand cost responsibility is substantial, because the costs of incremental generating capacity are now greatly in excess of historical capacity costs. Secondly, peaking generators are less efficient, and use more expensive and scarce generator fuels, than base-load generating capacity. As a result, even the variable cost (generally called the energy cost) of peak period electricity is higher than that of off-peak electricity.

Yet, the electric rate structures typically in effect in this Nation do not accurately signal the varying costs of electricity consumption at different times. Consumers using electricity during off-peak periods pay the same price as on-peak users, even though the cost of supplying off-peak price is demonstrably lower. Current electric rates thus fail to achieve the third objective of electric rates: to equitably distribute the costs and benefits of electricity supply. In short, under electric rate structures that inadequately reflect the time-varying costs of supplying electricity, off-peak users of electricity effectively subsidize peak-period users. This phenomenon is not confined to any one customer class. Portions of residential, commercial and

industrial classes all realize the benefits of this subsidy, and other portions of each class are bearing its costs. Moreover, this subsidization produces system inefficiency, which increases the total production cost of electricity for both the individual utility and the Nation.

In addition to their general lack of time-differentiation, there is another feature of current electric rates that leads to inefficient resource allocation and cross-customer subsidies, and hence to energy waste. This is their typical declining-block structure, which prices incremental blocks of electricity usage at a lower price per unit than the preceding block.

In most cases, this feature does not reflect the marginal costs of providing additional units of energy. Most of the variable cost of supplying electricity lies in the cost of fuel. There are, however, no apparent scale economies associated with purchasing large amounts of fuel, and therefore the kilowatt-hour components--the energy charge--of rates should not decline as much as they do with increased kilowatt-hour consumption. Any scale economies associated with higher levels of kilowatt demand, for example, savings in transmission costs, should be reflected in explicit demand or customer charges rather than hidden in declining energy charges. By pricing all

units of electricity at their marginal cost, efficient resource allocation will be achieved. At the same time, volume price variations that are not cost justified--i.e., subsidies--will be eliminated.

Electric rate structures based on marginal cost principles will reflect the varying costs of electricity consumption at different points of the day and the year, and will price each incremental unit of electricity at any time at the marginal social cost of supplying it. By doing so, time-of-day rates based on marginal costs will achieve the two objectives of rate-making not met by traditional rates: to allocate resources efficiently in the supply and consumption of electricity, and to distribute equitably the costs and benefits of supplying electricity. Even where traditional rates have been fairly successful, in meeting revenue requirements, time-of-day rates will be more successful. In 1974 and 1975, electricity sales leveled off substantially, largely as industrial users reduced their consumption of electricity. But a disproportionate amount of the reduction occurred--because current rates do not vary by time--in off-peak hours, partly resulting in the fact that some utilities, obliged to add expensive capacity to meet only peak demands, have experienced revenue shortfalls. As a consequence utilities have been forced to apply more frequently for rate increases in recent years. By basing rates on the marginal

costs of electricity, utilities will require less financing for capacity expansion and will benefit from reduced running costs because of the use of a more efficient generating mix. These cost reductions will benefit both utilities and utility customers.

The magnitude of the benefits of time-of-day pricing, as I said earlier, will be substantial. FEA analyses indicate that it can bring about savings of 22 percent--about \$60 billion--in constant dollars in cumulative capital requirements through 1985. The average real cost of electricity can be reduced, under marginal cost pricing, by 8 percent by 1985. Moreover, customers of all classes can reduce their electric bills by the order of 15 to 20 percent if their present consumption patterns tend to be off-peak, or if they can shift a portion of their electricity usage away from peak periods.

The energy conservation savings are equally substantial. FEA studies show that a time-of-day pricing strategy can by 1985 reduce total energy consumption by about 200,000 barrels per day of oil equivalent as more of the electricity generating load is borne by more efficient base-load units than by peaking units. In addition, since oil is used for most peaking requirements, the actual use of oil in generating electricity can be reduced substantially by 1985.

For these substantial energy and economic benefits, FEA has been a strong advocate of marginal cost-based electric rate structures. In the past year, FEA has participated in regulatory proceedings before utility commissions in ten States to advocate the phased, responsible--but timely--implementation of time-of-day pricing. Advocacy of time-of-day pricing is also a key element of our UCAN program (an acronym for Utilities Conservation Action Now) which seeks to bring utilities, utility consumers, and utility regulators together in adopting practices that promote energy conservation. We recognize that a certain range of uncertainty and several technical problems attend the full implementation of time-of-day pricing. To meet these concerns, the Office of Energy Conservation and Environment is funding a series of electric utility rate reform and load management demonstration projects. These projects are testing the rate structures we are advocating, to gauge consumer reactions to, and utility benefits from, different time-of-day rate formulas. Early results from these projects confirm what economic theory and European experience led us to believe, that time-of-day pricing will promise substantial energy and economic benefits to both utilities and utility consumers--of all classes.

I would now like to briefly discuss two of the major concerns expressed by utility customers in regard to time-of-day marginal cost pricing. First, a number of industrial customers have indicated a concern for a large one-step increase in electric bills if structural rate reform becomes a reality. Some of these customers assume that the higher peak period rates in time-of-day pricing will lead to higher electric bills. Some large users further maintain that such a pricing structure would unduly discriminate against them because many already operate on round-the-clock shifts and thus cannot shift loads to off-peak periods. Other industrial and commercial customers may argue that high relative labor costs prevent them from introducing off-peak shifts.

I would address these concerns as follows. First, let me emphasize that under time-of-day pricing, off-peak rates would be lower than the present undifferentiated rates, and peak period rates would be higher. The electrical consumption of a 24-hour operation is, of course, largely off-peak already, and such a firm would thus benefit from the reduced off-peak rates. Shifts in consumption that would further reduce the peak period usage of such a customer are frequently possible with available technology and would result in still greater cost savings. Other users may experience higher or lower electric

bills, depending on their usage patterns, but all customers--including residential customers--would have the opportunity to reduce their electricity costs by shifting some of their usage, perhaps individual loads, to off-peak periods. If some of such customers do experience higher electric bills, this outcome would be cost-based--not capricious or arbitrary--and I am not persuaded that subsidies hidden in the pricing structure should be used to sustain utility customers unable or unwilling to bear the full costs their usage patterns impose on the utility, be they industrial or residential. In any case, the preservation of hidden subsidies to utility customers should not stand in the way of achieving economic and energy goals in the overall public interest.

The second concern some have raised during the consideration of time-of-day pricing is the cost and availability of the necessary metering equipment. They express particular concern about the cost-effectiveness of adding the necessary metering equipment to apply time-of-day rates.

The costs of metering should legitimately be taken into account by regulatory authorities and utilities in their appraisal of peakload pricing. FEA's position is that decision to implement peakload pricing in any jurisdiction should be based on balancing the costs of necessary metering against the anticipated benefits under peakload pricing. However, I believe that time-of-day metering is clearly cost-beneficial for

industrial and larger commercial customers, and is likely to be cost-beneficial now even for smaller customers in most instances.

First, time-of-day metering costs will be a minor factor for larger industrial and commercial customers. Many may already have the necessary metering equipment or can obtain such equipment for a small fraction of their total electricity bills. Second, time-of-day metering is now economically feasible for many small commercial and residential customers. We know that the necessary metering equipment exists, even if in small quantities, under present market conditions. The probability of cost-justification will be greater as new metering technology now in the early stages of production increasingly comes into widespread application, leading to substantial cost reductions as scale economies are reached. Load leveling even by small customers will likely recover the costs of time-of-day metering, although such recovery will depend upon the rate itself, system load characteristics and the ability of consumers to reduce usage during peak periods.

I would now like to turn to several specific provisions of Title II which relate to the rate design of electricity service. Section 203(a)(1) sets up the following minimum standard: "Except as otherwise provided in paragraph (3), rates for

providing electric service to each electric consumer (or class thereof) shall be designed, to the maximum extent practicable, to reflect the costs of providing electric service to such customer (or class). Such costs shall be determined by the State regulatory authority in accordance with section 205". "Paragraph (3)" provides for the implementation of lifeline rates, which FEA cannot support prior to the availability of evidence assessing its effects with certainty. It is FEA's position that electric rates for every electricity consumer and consuming class should reflect, to the maximum extent practicable, the time-varying costs of providing electric service to such consumer or class. However, FEA has not taken the position that these practices should be adopted now on a uniform, nationwide basis. State and local regulatory authorities should have the flexibility to respond to particular problems and system-specific conditions.

Section 203(a)(2) sets forth the following minimum standard: "The rate per kilowatt, or per kilowatt-hour, for providing electric service during any period to any electric consumer (or class thereof) shall not decrease as kilowatt, or kilowatt-hour, consumption by such consumer increases, except to the extent that such utility shows in an evidentiary hearing that such decrease reflects costs of providing electric service to such consumer (or class) which decrease as such consumption

increases. Such costs shall be determined by the State regulatory authority in accordance with section 205". FEA supports the concept embodied in this section, but does not agree that H.R. 12461's mandatory approach will adequately preserve the integrity of State regulatory authorities.

Section 205(a) provides that "Each State regulatory authority which has assumed enforcement responsibility shall prescribe methods for determining costs of service provided to electric consumers (and classes thereof) by each electric utility over which it has ratemaking authority. Such methods shall, to the maximum extent practicable and to the extent consistent with 203(e), reflect marginal costs of service to each electric consumer (or class thereof), including differences in cost-incurrence attributable to daily and seasonal time of use of service." (Paragraph 203(e) provides that nothing in Title II shall authorize utility revenue recovery in excess of revenue requirements as determined in regulatory proceedings). It is FEA's position that costs of service provided to electric consumers and consuming classes should be based on marginal cost principles. But we do not favor Federal mandating of detailed ratemaking standards, which may not be uniformly beneficial in practice or appropriate, based on our current limited knowledge of the effects of such standards.

II. LOAD MANAGEMENT

Load management is the generic term describing techniques and pricing mechanisms designed to improve the capacity utilization of electric utilities. Studies undertaken for the Project Independence Report and for the recently-completed National Energy Outlook indicate that a strategy of encouraging electric utility load management can promise the Nation substantial benefits in both energy and future capital savings. The most widely-used measure of a utility's capacity utilization is its load factor, equal to the ratio of its average hourly kilowatt load to its hourly load at the time of annual system peak. In the past several years, average national load factors have declined by several percentage points, and now rest at less than 61 percent.

To a significant degree, the deterioration of electric utility load factors in recent years can be traced to the growth of temperature-sensitive loads, i.e., loads that are at their greatest during the hottest days of the summer and the coldest days of the winter. This growth can be traced in turn to the general rise in American living standards, reflected in the increasing saturation of air-conditioning and, to a lesser extent, electric space heating. The annual

peak loads of United States utilities invariably come during the days of temperature extremes, generally after several consecutive days of such temperatures. The immediate reason that utility load factors have decreased is that the growth of these peak demands has outstripped the growth of overall utility sales.

A low load factor indicates that a utility has on line a substantial, expensive and inefficient portion of capacity that is being used only a few hours each day. There are several critical consequences of such a low load factor. First, utilities must bear the fixed costs of this additional capacity 24 hours a day, even though it is generating electricity--and revenues--only a few hours a day. These costs are passed on to all consumers. Second, because the generating efficiency of peaking capacity is substantially less than that of base load capacity, peak generators require a substantially greater BTU fuel input to produce the same number of kilowatt-hours of electricity. Third, since peaking units are more inefficient and require more expensive fuels than base load generating units, the running costs of peaking generators are very high. Fourth, because peaking units depend almost completely on oil or natural gas rather than more abundant domestic fuels used for peak generation, overreliance on such units is inconsistent with national energy goals.

For these reasons, FEA is committed to a policy of promoting load management. The central element of a load management strategy, as we had the opportunity to discuss earlier, is to provide a set of time-varying pricing structures that will offer consumers the incentive to shift portions of their electricity usage away from utility system peak periods. As peak demands are reduced, utility load factors--and consequently capacity utilization--will be increased.

But a time-of-day, marginal cost-based pricing structure, may not, by itself, completely resolve utility load management concerns. There seems to be two major reasons for this, known in the industry as the "shifting-peak" problem and the "needle peak" problem. Turning first to the shifting-peak question, assume that a utility's load curve demonstrates a daily summer peak period of, say, 2 p.m. to 7 p.m. Being a progressive company, the utility develops a time-of-day pricing structure to reflect the varying marginal costs of supplying electricity at different periods of the day. It therefore implements a time-of-day pricing schedule with two rating periods, peak and off-peak, and sets a price differential for the two periods of, say, 4:1. The utility gauges the peak and off-peak rating periods to coincide with its system peak hours. Once the new rates are put into effect, the utility finds, sure enough, that electricity usage during the peak hour

has declined. The utility might also discover that its peaks have not been reduced, but have merely shifted--prior to 2 p.m. and immediately after 7 p.m. The load management benefits of such a rate would thus be neutralized. While this should seldom occur, when it does, it calls for limiting the pricing incentive to what is actually needed to equalize peaks at different times.

The second problem concerns the "needle-peak" phenomenon, which arises because of the temperature-sensitive nature of most utility loads. Assume that a utility institutes a time-of-day rate structure with very substantial peak/off-peak pricing differentials, say, 10:1. Assume, further, that this rate has been successful in holding down the utility system's peak demand over most of the summer. Experience would suggest, however, that after a few consecutive days of extremely hot and humid weather, there would come a time when consumers would "cave in", and willingly pay a very high price in order to be able to enjoy their air conditioning with its controls set on "max". The result is a very severe needle peak, which effectively reduces many of the load management gains the utility thought it had made earlier in the summer. Again, this is a potential problem with any time-of-day rate when not accompanied by other load management techniques.

To a substantial degree the problems of shifting peaks and of needle peaks can be alleviated by combining other pricing tools with time-of-day rates. The most important of these are interruptible, or curtailable, industrial rates, which a small number of utilities have offered for many years. Although interruptible rates are not precisely based on marginal costs, such rates are broadly consistent with marginal cost principles. Since interruptible loads are generally shed as a utility system approaches peak, such loads should not bear the cost responsibility for the capacity needed to meet these peaks. Nor should such loads be forced to pay the higher running costs of peak period electricity generation. The substantially lower rates charged interruptible customers, then, are justified by marginal cost principles. Such rates, moreover, will be most effective when used in conjunction with time-of-day marginal cost-based rates. By having available the option of shedding the interruptible portion of their industrial load at any time, utilities will be better able to avert, or at least ease, the needle-peak and shifting-peak problems.

A second pricing tool, designed to avoid the shifting peaks problem, is to include an intermediate rate between the peak and off-peak rates. By pricing the hours immediately before and after the peak hours at this intermediate rate, the incentive to use electricity in these hours will be reduced.

These pricing tools may not always provide a complete answer to load problems as they arise under time-of-day rates. There may also be a role for other load management systems, including utility load control systems.

Electric load controls enable a utility to shed portions of its demand load during its system peak periods. Customer loads can be shed on a predetermined basis, that is, timed so as to coincide with estimated system peak hours. Or, a signalling control mechanism can be set up to provide a utility the flexibility to shed portions of its load whenever system peak is approached.

The simplest load-shedding option is a clock-actuated switch, which will turn off individual load units according to a timer pre-set to coincide with predicted system peak periods. This method is currently used by many utilities to control electric water heater loads, and is made generally acceptable to small customers by preferential rates. The main advantage of systems using control clocks lies in their simplicity, which is reflected in the relatively low cost of the hardware. The present cost to the utilities of the basic residential single-phase watthour meter with a built-in, clock-actuated, on-off switch is about \$50. The main problem facing utility systems

with a large number of control clocks is a lack of flexibility and a low degree of reliability. For example, clocks often need readjusting. To make a change in the on-off times of the controlled load, each clock must be manually reset, which is a time-consuming, costly process. Moreover, clock-controlled load management systems may be impractical if adjustments in the control schedule are necessitated by seasonal changes in the load curve and by the changes from standard to daylight saving time.

Another element of the inflexibility of such systems arises from the 24-hour cycle operation of such clocks. That is, the load is typically turned off even when unnecessary, such as on weekends and holidays. Furthermore, since the clocks run on line power, power outages will kick the on-off times of the load out of phase. An extended power outage in an area involving a large controlled load may shift the on-period so as to post a serious problem for the utility. This problem can be alleviated by providing the electrically driven clocks with a mechanical (spring) backup. The addition of a 10-hour carryover adds \$20 to the cost of the meter.

The flexibility lacking in clock control mechanisms is provided by load communication systems that enable a utility to drop portions of its load on a selective basis by sending a load-shedding signal to receivers located at the

individual customer end-use. The most important of these mechanisms is ripple control, which is in widespread use in Western Europe, Australia, New Zealand, and South Africa. Ripple control technology was first developed in Europe over 50 years ago and has steadily improved since then, gaining wide acceptance in the industrialized West outside of the United States. Ripple control systems are currently being implemented on a limited basis in Vermont, and are incorporated in several of FEA's Electric Utility Demonstration projects.

In simple terms, ripple control systems inject selective load-shedding instructions, coded in audio-frequency signals, into the electricity distribution network. The signals then travel through transformers and lines to receivers at the customer end, where the signals are decoded and acted upon.

The great appeal of ripple control load management systems is in their flexibility and reliability. Depending upon the type of signal transmission equipment and central processing unit used, the number of different command messages ranges into the thousands, and signals can be directed to many classes and sub-classes of end-uses. The messages can be sent manually whenever necessary, or automatically according to any pre-determined schedule. As a further step in the degree of control, a ripple-controlled network can be turned into an automatic system by using a computer to monitor the network status via

connections to the appropriate network points, and to initiate automatically the transmission of the required command.

In Europe, one of the most important uses of ripple control is the control of charging times on electric storage heaters. However, ripple controls are used not only for load shedding purposes, but also for a variety of other functions. Most importantly, ripple control can be an integral part of a time-varying metering program, since it provides utilities with the ability to flexibly and remotely switch time-of-day meters to different rate periods. In addition, ripple control signals could be used by utilities in the execution of various electricity distribution functions, such as closing and opening circuit breakers.

The primary disadvantage of a ripple control system in comparison to a simple clock-actuated control system lies, of course, in its cost. The major cost elements of ripple system are its central processing unit, signal injection equipment, and individual receiving units. Allocated costs per residential customer of such a system have been estimated to be in the range of \$100 to \$150, in contrast to a simple

clock control system with per customer costs of less than \$50. These costs are expected to decline, however, as utilities purchase more of these systems, and production costs fall as scale economies are achieved.

The third load control system is radio control, which enables a utility to selectively and flexibly shed portions of its load via radio waves. A radio control system is superior to ripple control in some respects. Most importantly, because radio transmissions can be made at much higher frequencies than ripple control frequencies, wider bandwidths--and thus higher information rates--can be employed. It must be recognized, though, that many radio frequencies are already somewhat overloaded, thus limiting the choice of a radio control system's operating frequency and bandwidth, and hence its information transmission ability. The Federal Communications Commission has designated, however, a portion of the Nation's airwaves to be used for load management purposes.

The principle of radio control is fairly simple. Radio transmitters are placed in suitable locations (or in vans or aircraft) to cover the network by a sufficiently strong signal. The transmitted waves are coded with "addresses" for selecting the desired receiver groups, and the appropriate control messages. A radio

receiver placed near the controlled load detects and decodes the message and performs the switching function as with a ripple control receiver.

Radio control systems are in operation in several of the Nation's utilities, in both experimental and system-wide applications. The Detroit Edison Company has controlled, by radio, the electric water heating load of 200,000 of its residential customers, with extremely positive benefits on system load and a high level of customer acceptance. This system selectively shuts off residential water heating loads, typically on a cycling basis, during system peak periods.

In addition to their ability to transmit a wider range of information than ripple systems, radio control systems are slightly less expensive. Buckeye Power in Ohio is installing radio control at an allocated cost of approximately \$90 per customer. The major disadvantages of a radio control system in comparison to ripple control--which may prove critical--lie in its greater susceptibility to signal interference and the difficulty in maintaining its signal strength over widely dispersed service areas.

FEA does not advocate the implementation of any of these three load control systems to the exclusion of the others. FEA does advocate--as part of its UCAN program and in testimony presented in State utility regulatory proceedings--that

utilities implement that load control system that is most cost-beneficial. This determination will vary from utility to utility, chiefly on the basis of each system's load and customer characteristics. FEA's Electric Utility Demonstration projects are examining several forms of load control systems, and are designed to provide information to the Nation's utilities to guide them in their consideration of various load management alternatives.

Ten demonstration projects are currently underway, involving time-of-day rates, load control technologies, and various end-use conservation activities. The projects are cooperatively funded by FEA, State and local regulatory authorities, and individual utility systems. Minimum State and local fund sharing is 10 percent, although the local share is substantially above this percentage in several jurisdictions. FEA funding through Fiscal Year 1976 will total approximately \$2 million.

Demonstrations are currently in progress in Arizona, Arkansas, California (City of Los Angeles), Connecticut, Michigan, New Jersey, New York, Ohio, Vermont and Wisconsin. Initial findings from these projects are beginning to come in, and uniformly indicate very positive results from a time-of-day pricing, load management strategy. Benefits have included a reduction in system peakload, a substantial decline in peak period electricity

consumption, positive consumer acceptance, and significant savings in monthly residential electric bills.

In addition, FEA has issued a Request for Proposals for an additional 12 to 15 rate structure and load management demonstrations. The level of FEA funding for this second round of demonstrations will total approximately \$5 million. FEA funding will be made available to State and local jurisdictions on a competitive procurement basis. Portions of this funding package will be allocated to Federally-owned utilities, to investor-owned utilities, to municipal utilities, to rural electric cooperatives, and to proposals designed to study lifeline rates. Proposals must be submitted by April 15, and funding decisions will be completed in June.

We believe, then, that load control signalling systems can be an effective and cost-beneficial load management tool. But perhaps the greatest attraction of utility load control systems is in the magnification of the net benefits of load controls when they are combined with time-of-day and interruptible rates. By implementing these load management tools in coordination, a utility can both reduce the costs and increase the effectiveness of each tool used separately. By combining a load control signalling system with a time-of-day metering plan, a utility would not be forced to provide an expensive timing

mechanism to switch meters between peak and off-peak periods, since such a capability could be automatically provided by the load control system. And, since load controls are extremely flexible, there would be no need to reset thousands of timers on residential meters as seasons and peak periods change, substantially reducing costs and increasing efficiency. Finally, if transmitters are installed on customer meters, the load control system could be transformed into a two-way system, permitting remote meter-reading, reducing costs even further.

Another advantage of combining time-of-day rates and utility load controls arises from the concurrent development of thermal storage systems, a form of customer-controlled load management. The principle of thermal storage systems, whether hot or cool storage, is fairly simple: the units are charged during off-peak hours and are then disconnected during peak hours, to slowly release their stored heat or cool. Without time-varying electric rates, of course, consumers would have no incentive to purchase storage units. But with such rates, consumers can defray--and more than defray--the costs of storage units by shifting their space conditioning or heating usage to off-peak hours. Importantly, by using such storage units, consumers can save money--and energy--without sacrificing any of their living standards, since they will enjoy the same cooling or heating comfort as ever. At the

same time, the utility will benefit as the use of these storage systems grows, further reducing its key temperature-sensitive load.

Finally, as time-of-day pricing comes into greater application, load management systems will be increasingly installed by the end-users themselves, most likely industrial and commercial customers. We are beginning to see the use of such energy and demand management systems--typically marketed by the information-processing companies--already. These systems can be easily programmed to reduce the electricity use of different individual loads at various parts of the day, and thus can easily react to time-of-day pricing incentives. The implementation of time-of-day pricing will make such systems increasingly attractive to commercial and industrial customers. Costs will fall, and benefits from these systems will rise--both for customers and for the utility.

Utility and customer load control systems, then, appear to be effective load management tools. When used in conjunction with marginal cost-based and interruptible electric rates, the effectiveness of each of these load management tools can be increased dramatically. Section 204 of Title II provides for the implementation of cost-effective load management techniques.

FEA strongly supports the concept of applying load management techniques where implementation is proven to be cost-effective. But we do not favor mandatory consideration of such techniques, as called for in Section 204 of the Act.

PANEL ON RATE DESIGN

STATEMENTS OF: CHARLES J. CICCHETTI, IRWIN M. STELZER,
COMMISSIONER EDWARD BERLIN, AND JAMES RANNIGER

TESTIMONY OF DR. CHARLES J. CICHETTI
 DIRECTOR OF WISCONSIN OFFICE OF EMERGENCY ENERGY ASSISTANCE
 ON ELECTRIC UTILITY REFORM
 BEFORE THE SUBCOMMITTEE ON ENERGY AND POWER OF THE
 COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE, MARCH 31, 1976

MR. CHAIRMAN, MEMBERS OF THE SUBCOMMITTEE, I'LL KEEP MY REMARKS BRIEF. I WILL DEVELOP TWO BASIC THEMES. FIRST, I'LL EXPLAIN MY GENERAL VIEWS ON ELECTRICITY PRICING. AND SECOND, I'LL COMMENT ON THE BILL H.R. 12461.

I. ELECTRICITY PRICING

ELECTRICITY IS GENERALLY SOLD IN THIS COUNTRY USING TARIFFS THAT ARE DESCRIBED AS DECLINING BLOCK PRICES. I BELIEVE IT IS MORE APPROPRIATE TO THINK OF THIS PRICING PRACTICE, IN A MORE PEJORATIVE MANNER, AS VOLUME DISCOUNT OR PROMOTIONAL PRICING. WE PRICE ELECTRICITY IN THE UNITED STATES SO THAT THE MORE A CUSTOMER USES THE LOWER IS THE UNIT COST OF THE CONSUMPTION. THIS IS WHY I BELIEVE IT IS APPROPRIATE TO THINK OF SUCH PRICING EITHER AS VOLUME DISCOUNT PRICING OR PROMOTIONAL PRICING.

DURING THE DECADES FOLLOWING WORLD WAR II, WHEN ELECTRIC UTILITIES WERE EXPANDING SO RAPIDLY THAT THEY DOUBLED EVERY SEVEN YEARS, THE AVERAGE COST OF ELECTRICITY GENERALLY DECLINED EACH YEAR, EVEN WHEN GENERAL PRICE INFLATION WAS PRESENT. WITH SUCH AN ADMIRABLE RECORD THERE ARE SOME REASONS WHY A SYSTEM LIKE VOLUME DISCOUNT PRICING MIGHT HAVE MADE SOME SENSE. I'VE NEVER ACCEPTED THAT TOTALLY, BUT I AT LEAST RECOGNIZE THERE WERE SOME REASONS TO DEFEND SUCH PRACTICES IN THE 1950'S AND EARLY TO MID 1960'S.

HOWEVER, IN THE LAST SEVERAL YEARS MOST OF US HAVE COME TO THINK OF ENERGY AS SOMETHING THAT IS SCARCE AND VALUABLE, SOMETHING TO BE PROTECTED AND CONSERVED. IN ADDITION, ELECTRIC UTILITY PRICES HAVE RISEN DRAMATICALLY SINCE THE LATE 1960'S FOR MANY REASONS.

TECHNOLOGICAL PROGRESS CEASED PROVIDING LARGE UNIT COST REDUCTIONS, PARTICULARLY AS WE MOVED MORE HEAVILY INTO NUCLEAR POWER. A MOST IMPORTANT REASON FOR THIS IS THAT THE RELIABILITY OF NUCLEAR POWER PLANTS HAS GENERALLY BEEN MUCH LESS THAN PROMISED. OFTEN THESE ADDITIONAL COSTS HAVE FAR EXCEEDED THE PROMISED BENEFITS. THE INFLATION OF THE LATE 1960'S LED TO HIGHER COSTS, AND ESPECIALLY TO HIGHER INTEREST RATES. EACH RESULTED IN HIGHER COSTS FOR ELECTRIC UTILITIES. FINALLY TO TOP IT ALL OFF, THERE WAS THE EXPLOSION IN ENERGY PRICES CAUSED BY THE 1973 OIL EMBARGO, WHICH LED TO ANOTHER ROUND OF PRICE INCREASES FOR ELECTRIC UTILITIES. WE OFTEN FORGET, AND UTILITIES THEMSELVES DON'T HELP MATTERS, THAT UTILITIES ARE MORE LIKE ENERGY CONSUMERS THAN ENERGY SUPPLIERS WHEN IT COMES TO PURCHASING FUEL AND BORROWING CAPITAL.

IN ADDITION TO THE IMPORTANT ENERGY CONSERVATION AND ECONOMIC FACTORS, THERE ARE OTHER REASONS WHY VOLUME DISCOUNT ELECTRICITY PRICING MUST BE ELIMINATED. TODAY MANY AMERICANS ARE CONCERNED ABOUT THE PROLIFERATION OF BOTH NUCLEAR POWER AND COAL BURNING POWER PLANTS BECAUSE OF THE ENVIRONMENTAL DAMAGES AND RISKS ASSOCIATED WITH THEM. VERY FEW PEOPLE ENJOY THE PROSPECTS OF TRANSMISSION AND DISTRIBUTION LINES RUNNING CLOSE TO WHERE THEY LIVE, WORK OR PLAY. THE GENERATION OF ELECTRICITY HAS ASSOCIATED WITH IT BOTH AIR POLLUTION, PARTICULARLY SULPHUR AND PARTICULATES, AND WATER POLLUTION, PARTICULARLY THERMAL DISCHARGE. FINALLY, THE FUELS THAT ARE USED TO GENERATE ELECTRICITY OFTEN HAVE ENVIRONMENTAL DAMAGE ASSOCIATED WITH THEM.

IN SUMMARY THERE ARE THREE REASONS: ENERGY CONSERVATION, ECONOMICS, AND ENVIRONMENT WHICH LEAD ONE TO SERIOUSLY QUESTION THE DESIRABILITY OF RETAINING A SYSTEM OF ELECTRICITY PRICING IN THE UNITED STATES THAT PROMOTES GREATER USE AND WORSE STILL, ANSWERS VOLUNTARY CONSERVATION WITH RATE HIKES. AN OBVIOUS QUESTION IS HOW CAN WE REPLACE THIS FOOLISH SYSTEM IN ORDER TO TAKE A MORE REALISTIC VIEW OF ENERGY, ECONOMIC AND ENVIRONMENTAL REALITIES?

IT IS TOO SIMPLE, AS WELL AS INCORRECT, TO BELIEVE THAT WE SHOULD SIMPLY REPLACE VOLUME DISCOUNTS WITH VOLUME PENALTIES. THE REASON FOR THAT RATHER STRONG UNAMBIGUOUS STATEMENT IS THAT A KILOWATT-HOUR (KWH) OF ELECTRICITY IS NOT SOME HOMOGENEOUS ENERGY FORM THAT WE SHOULD BLINDLY START SAVING AS THOUGH EACH KWH SAVED EQUAL UNITS OF ECONOMIC, ENVIRONMENTAL, OR ENERGY CONSERVATION UNITS. THE FACTS ARE THAT A KILOWATT-HOUR IS NOT LIKE EVERY OTHER KILOWATT-HOUR. TO UNDERSTAND THIS LET ME DIVIDE KILOWATT-HOURS OF ELECTRICITY INTO JUST TWO TYPES. ONE TYPE IS PEAK KILOWATT-HOURS AND THE OTHER TYPE IS OFF-PEAK KILOWATT HOURS.

DURING PEAK TIMES THE COST OF ELECTRICITY IS FAR GREATER THAN DURING OFF-PEAK TIMES. THE REASON FOR THIS IS THAT DURING PEAK TIMES VERY INEFFICIENT, AND THEREFORE, HIGH OPERATING COST POWER PLANTS ARE USED TO GENERATE ELECTRICITY. IN ADDITION, IF DEMAND INCREASES DURING PEAK TIMES, THE UTILITY MUST BE PREPARED TO BUILD A LARGE NUCLEAR OR COAL BURNING BASE-LOAD POWER PLANT, OR IT MUST DEVELOP VERY ENERGY-INEFFICIENT, HIGH OPERATING COST PEAKER PLANTS. THE POLLUTION ASSOCIATED WITH PEAK GENERATION OF ELECTRICITY IS ALSO GREATER. THE ENVIRONMENTAL DAMAGES CREATED THROUGH POWER PLANT TRANSMISSION EXPANSION TO MEET PEAK PERIODS IS GREATER. ENERGY CONSERVATION IS LESS BECAUSE MORE ENERGY, MEASURED IN TONS OF COAL, BARRELS OF OIL, ETC., MUST BE USED TO PRODUCE THE SAME AMOUNT OF ENERGY OUTPUT, MEASURED IN KWH. IN OTHER WORDS IF WE CAN IDENTIFY PEAK KILOWATT-HOURS WE SHOULD BE CONSERVING THESE MUCH MORE THAN WE CONSERVE OFF-PEAK KILOWATT-HOURS.

ACCORDINGLY, RATHER THAN VOLUME PENALTY PRICING, A FAR BETTER SYSTEM FOR THE UNITED STATES WOULD BE TO ADOPT PEAK PERIOD TIME OF USE PRICING. TO PREVENT UTILITIES FROM EARNING TOO MUCH MONEY AND BECAUSE COSTS ARE LOW, WE SHOULD OFFSET HIGHER PEAK PERIOD PRICES WITH OFF-PEAK DISCOUNT PRICES. THIS WILL ENCOURAGE THE SHIFTING OF ELECTRICITY USE AWAY FROM EXPENSIVE PEAK PERIODS OF

TIME, EXPENSIVE FOR THE UTILITY, EXPENSIVE FOR SOCIETY, EXPENSIVE FOR THE ENVIRONMENT, EXPENSIVE FOR ENERGY WASTE, TO THOSE OFF-PEAK PERIODS OF TIME IN WHICH THERE IS EXCESS CAPACITY, AND LOW OPERATING COST EFFICIENT GENERATING ELECTRIC POWER PLANTS ALREADY IN PLACE.

MY THOUGHTS ON THIS SUBJECT, VIEWED IN MANY PARTS OF THE WORLD, ARE HARDLY NEW OR EARTHSHAKING. MOST COUNTRIES IN WESTERN EUROPE, AND EVEN MANY DEVELOPING COUNTRIES AROUND THE WORLD, HAVE RECOGNIZED THIS DISTINCTION BETWEEN EXPENSIVE OR COSTLY KILOWATT-HOURS AND INEXPENSIVE KILOWATT-HOURS IN THE PRICES CHARGED THEIR CUSTOMERS. THE REALITIES OF THE 1970'S REQUIRE THE UNITED STATES TO DO NOTHING LESS THAN ATTEMPT TO CATCH UP WITH THOSE CITIZENS OF THE WORLD WHO HAVE LONG RECOGNIZED THE FACT THAT ENERGY, LIKE ALMOST ALL RESOURCES WE CONSUME, IS SOMETHING TO BE CONSERVED AND USED WISELY.

II. LEGISLATIVE PROPOSALS

THE SECOND PART OF MY COMMENTS WILL BE DIRECTED AT VARIOUS VERSIONS OF THE FEDERAL LEGISLATION THAT YOU ARE CONSIDERING TO BRING INTO REALITY THE CONCEPTS THAT I HAVE EXPRESSED ABOVE. FIRST, I AGREE THAT IT IS TIME FOR THE FEDERAL GOVERNMENT TO ENCOURAGE THE IMPLEMENTATION AND DEVELOPMENT OF ELECTRICITY PRICING PRACTICES WHICH WILL ENCOURAGE GREATER USE OF OUR ALREADY COMMITTED RESOURCES TO GENERATE ELECTRICITY, AND DISCOURAGE UNNECESSARY EXPANSION OF POWER PLANTS AND TRANSMISSION FACILITIES AT HIGHER COST TO ALL SEGMENTS OF SOCIETY.

HOWEVER, I BELIEVE SECTION 203 OF H.R. 12461 WOULD UNNECESSARILY ALLOW VOLUME DISCOUNT PRICING IN THE UNITED STATES. MY VIEWS ON THE SUBJECT ARE STRONG AND THEY CAN BE STATED IN A STRAIGHTFORWARD MANNER. IT IS UNCONSCIONABLE FOR ANY LEVEL OF GOVERNMENT TO PERMIT VOLUME DISCOUNT PRICING IN AMERICA TODAY. THEREFORE, I SUPPORT AN AMENDMENT THAT WOULD PROHIBIT VOLUME DISCOUNT PRICING.

IT IS IMPORTANT TO AVOID A PROBLEM THAT RECURRED IN EARLY DRAFTS OF THE PROPOSED LEGISLATION. SOMETIMES ELECTRICITY WAS SIMPLY REQUIRED TO BE PRICED ON A COST OF SERVICE BASIS. IF ONE SPENDS AS MANY HOURS IN HEARING ROOMS AS I HAVE, ONE COMES TO RECOGNIZE THAT ONE MAN'S DEFINITION OF COST OF SERVICE MAY BE ANOTHER MAN'S LOOPHOLE TO AVOID PRACTICING ANY OF THE TARIFF REFORMS WE WOULD ALL AGREE SHOULD BE ADOPTED.

ANOTHER MATTER THAT MUST BE KEPT IN PERSPECTIVE IS THAT THERE IS AN IMPORTANT DIFFERENCE BETWEEN TARIFF STRUCTURES AND TARIFF LEVELS. TIME OF USE PRICING MUST BE ENCOURAGED AND IMPLEMENTED IN THE UNITED STATES. BUT, THE LEVEL OF TARIFFS MUST CONTINUE TO BE BASED UPON REGULATORY DECISIONS AS THEY HAVE IN THE PAST. TOO OFTEN THERE IS CONFUSION ON THIS IMPORTANT DISTINCTION. H.R. 12461 CLARIFIES THIS MATTER, BUT EARLIER DRAFTS DID NOT. I URGE YOU TO RETAIN THIS DISTINCTION IN ANY ADDITIONAL AMENDMENTS YOU MAY CONSIDER.

FINALLY, I WANT TO EXPRESS MY VIEWS ON THE REASONS WHY ESTABLISHING NATIONAL STANDARDS FOR RATE DESIGN ARE IMPORTANT. THEY CAN BE SUMMARIZED AS FOLLOWS:

- (1) THERE ARE BENEFITS FROM HAVING EACH STATE BEGIN TO REFORM ELECTRICITY TARIFFS AT THE SAME TIME WITH A SIMILAR SET OF GUIDELINES. H.R. 12461 PROVIDES SUFFICIENT FLEXIBILITY SO THAT EACH STATE COULD DEVELOP A PLAN THAT WILL MEET ITS UNIQUE NEEDS.
- (2) H.R. 12461 IS DEDICATED TO A SET OF OBJECTIVES THAT ARE CORRECT AND COMPELLING. MANY STATES HAVE MADE COMMITMENTS TO TARIFF REFORM, BUT THEY NEED A STIMULUS AND H.R. 12461 DOES THAT IN MANY WAYS.
- (3) H.R. 12461 HELPS BRING THE CONSUMER INTO RATE CASES AND THIS IS NECESSARY TO HELP REGULATORY COMMISSIONS BRING

ABOUT REFORM IN THE TYPE OF ENVIRONMENT ESTABLISHED
BY THE BILL.

- (4) OUR ENERGY PROBLEM IS A NATIONAL PROBLEM.
- (5) OUR CAPITAL SHORTAGE PROBLEM IS A NATIONAL PROBLEM.
- (6) INTERSTATE COMMERCE REQUIRES THE NATION TO MAKE A
GENERAL COMMITMENT TO A WELL CONCEIVED NATIONAL REFORM,
AT THE SAME TIME PERMITTING INDIVIDUAL STATE DISCRETION.
H.R. 12461 DOES ALL THIS AND MORE.

n/era

NATIONAL ECONOMIC RESEARCH ASSOCIATES, INC.
NEW YORK / WASHINGTON / PHILADELPHIA / LOS ANGELES

PREPARED STATEMENT OF
IRWIN M. STELZER, PRESIDENT
and
SALLY H. STREITER, SENIOR CONSULTANT
NATIONAL ECONOMIC RESEARCH ASSOCIATES, INC.

Submitted to the
Subcommittee on Energy and Power
Committee on Interstate and Foreign Commerce
United States House of Representatives

Washington, D.C.
March 31, 1976

PREPARED STATEMENT OF
IRWIN M. STELZER, PRESIDENT
and
SALLY H. STREITER, SENIOR CONSULTANT
NATIONAL ECONOMIC RESEARCH ASSOCIATES, INC.

Submitted to the
Subcommittee on Energy and Power
Committee on Interstate and Foreign Commerce
United States House of Representatives

My name is Irwin M. Stelzer. I am an economist and President of National Economic Research Associates, Inc.,¹ appearing here in response to Chairman Dingell's kind request of March 23. I should at the outset note that while much of the research underlying my testimony has been financed by a group of utilities over a period of several years,² the views expressed are my own; none reflect the unanimous views of my clients and all of my thoughts are contrary to the positions of at least some of them.

I. INTRODUCTION

Dr. Cicchetti has pointed out the problems economists have with some of the existing methods of designing electric rates. I would like to set forth, briefly and in lay terms, the principles which in my view should underlie electric rates, commenting along the way on the relevant portions of Title II of H. R. 12461.

¹ A fuller statement of my background and that of Ms. Streiter appear as Attachments A-1 and A-2.

² See Attachment B.

First, however, we must ask whether this is an area into which the federal government should inject itself. Here we must balance a set of conflicting considerations. On the one hand, as Dr. Joskow pointed out in his letter of January 26 to the Chairman (Attachment C, hereto), many individual electric utilities and state regulatory bodies are making substantial progress in revising rate structures, and many other utilities, NARUC, EPRI, EEI and other groups are engaging in the research efforts necessary to reach informed judgments with respect to the implementation of rate revision principles. Furthermore, it seems clear that only the state regulatory agencies possess the expertise to conduct the detailed costing and demand studies required to implement rate structure revision. On the other hand, it is clear that the federal government has a direct interest in assuring that the supply of domestic energy is sufficient to liberate foreign policy from susceptibility to blackmail and to meet the energy requirements of a fully employed, growing economy; that the level of supply which will prove adequate is in part a function of how energy is priced;³ and that the progress in moving toward appropriate pricing has not been uniform in all states.

A balancing of these conflicting considerations seems to indicate that it would not be inappropriate for the federal

³ I hasten to add that our knowledge of the extent to which either the quantities demanded or those supplied will respond to price changes remains imperfect.

government to suggest broad guidelines to which state agencies might refer in setting rates in accordance with ever-changing local cost and demand conditions. Indeed, the mere prospect of federal action in this area should accelerate an already-apparent trend toward rate structure revision.

With that predicate, let me set forth what I deem to be the appropriate economic basis for designing electric utility rates, which basis is, I believe, generally reflected accurately in Sec. 205(a) of H. R. 12461,⁴ but then inadvertently abandoned in Sec. 203(a)(1). That is, Sec. 205(a) sets forth the economically appropriate cost standard, but Sec. 203(a)(1) may not clearly enough permit departure from those costs when setting rates, unless its requirement that rates "reflect" such costs can be interpreted to permit deviations from cost to "reflect" market and equity considerations.

II. ECONOMIC AND COST CONCEPTS

An economic approach to ratemaking is one which is conducive to the efficient allocation of resources, including environmental resources.

Such efficient resource allocation can be achieved

⁴ I have not attempted to address the procedure by which H. R. 12461 would achieve this objective, but understand that the Committee has agreed to receive, for its later consideration and inclusion in the record, a memorandum on that subject.

by designing rates to reflect cost. And by cost I mean in this context, marginal cost. This concept has two important dimensions. First, it refers to the cost of additional production. Second, it includes all costs borne at the margin, whether incurred by the producer or society.

It should be noted that I am not suggesting that rates for electric power be set equal to the marginal cost of production. And I hope that the word "reflect" in Secs. 203(a)(1) and 205(a), coupled with the phrase "to the maximum extent practicable" in those Sections means that H. R. 12461 recognizes that deviations from marginal cost may be necessary.

Marginal cost pricing is a central concept in economic theory, developed and accepted long before problems of electricity pricing attracted such wide attention. The theory states that if the price of every item is set equal to its marginal cost, then maximum economic efficiency will result. As a theory it is logically unassailable--even those economists who object to its application in particular circumstances would not dispute its theoretical validity. In common sense terms the rule can be thought of as asserting that the price should signal the cost to society of producing one unit more of a good, or what society will save by producing one unit less. Then, consumers can respond to these signals, and divide their incomes among different goods and services in a

manner designed to maximize the total satisfaction they receive from spending their incomes.

That is the common sense to the economists' theoretical notion of marginal cost pricing, but there are certain assumptions underlying the theory, and certain conditions which should be reviewed before applying marginal cost prices in any particular case.

First, the economists' rule of marginal cost pricing is a rule for economic efficiency, and economic efficiency may in some cases be rejected in favor of other goals.

Second, the theory assumes that all other relevant goods and services in the economy are priced at marginal cost. This is the "problem of the second best" and is primarily relevant in the case where close substitutes are priced above or below their marginal cost; however, complementary goods, inputs to the production process and markets for goods which use electricity as an input should also be reviewed. Since goods and services in a competitive economy will tend to be priced at marginal cost it is mainly cases of monopoly or regulation which would be relevant to decisions to deviate from marginal cost. The decision to deviate from marginal cost is, however, still based on marginal cost considerations. These are the theoretical conditions and assumptions under which marginal cost pricing maximizes overall economic efficiency.

Third, the cost of administering any price structure

must be considered: if moving a bit closer to marginal cost involves incurring expenses far out of line with the benefits, it may not be worth doing.

Economists' proposals for rate structure reform in electricity do not generally assert that this will bring about the millennium. Nor do their proposals generally involve pricing at marginal cost. Revenue constraints based on historic costs will, except by chance, dictate rates based on marginal cost principles rather than marginal cost rates. The economists' claim is only that even when second best considerations have been taken into account, prices based on marginal costs offer the best method of improving resource allocation, and of signaling consumers what their consumption is costing society, while prices based on other considerations can lead to economically wasteful consumption, excessive growth, and poorer financial performance.

It is the application of marginal cost principles to electricity production which leads to proposals for time-of-day rates and in some cases to seasonal variations. In electricity production, the product is demanded in a periodic fashion and is to a large extent unstorable, so that although the same machines may be used to produce electricity in the day and at night, daytime and nighttime electricity are best thought of as separate products with joint or common costs. When two products with different costs of production

are priced at the same price, there is a tendency for too little to be consumed of the overpriced product while too much is consumed of the underpriced product. In the case of peak electricity, air-conditioning use has grown rapidly in most sections of the country; during approximately the last decade, the costs of expanding most systems to meet the growth have been far greater than the price charged.⁵ During that time period, consumers have been receiving the wrong price signal. They make consumption decisions based on the price they are being charged for peak electricity, but that price does not reflect the cost to society of the scarce resources they are forcing the utility to consume to satisfy their demands. Meanwhile, nighttime electricity is relatively inexpensive to provide, but price is not differentiated with respect to time of use. Price discourages people from using as much power at off-peak times as they would if rates reflected only the appropriate cost.

These wrong price signals tend to encourage peak demand to grow faster than off-peak demand, and faster than it otherwise would, causing the utility to have to install additional capacity with increased revenue requirements, thereby increasing the utility's deficits, causing it to come

⁵ In the 1950s and early 1960s, marginal cost was below average cost, so that expansion--induced in part by rates related to marginal cost--reduced average costs and rates to all consumers.

back for rate increases more frequently than it otherwise might. Please understand: rate structure revision alone, even if perfectly accomplished, cannot in an inflationary era eliminate the need for high average rates; but it can possibly reduce the magnitude of the increases.

When capacity is fully utilized additional demand will require additions to capacity, while additional demand in off-peak times will cost only the cost of fuel and any incremental maintenance. There is a graduated peak responsibility which depends on the load and the equipment configuration.

Since total revenues are constrained to what they would be under any other form of pricing, consumers in aggregate will be paying the same at any given moment in time under marginal cost pricing as under any other form of pricing. But those who consume relatively more at peak will pay more, and those whose consumption is mainly off peak will pay less. The prices they pay, in other words, will more accurately reflect the costs they are imposing on the utility and on society. However, consumers will be free to alter their patterns of demand to save themselves money at the same time as they save the system money. This is the reason that time-of-day or seasonal price variations should be based on marginal costs. The marginal cost at peak is what the system saves if a consumer moves away from the peak. The marginal cost

off peak is what it costs the system to supply the consumer in the off-peak period. Price differentials which do not reflect differences in marginal costs will offer wrong incentives and result in uneconomic shifting.

The consumer then may welcome time-of-day pricing because it offers lower price off-peak electricity as a way of slowing the rate of increase in his electric bills, while utility management sees it as a way to reduce the uneconomic growth of the peak. Marginal cost pricing is not simply a theoretical, some would say, theological, construct: both consumers and producers can benefit, and that is precisely what economists mean by a "net gain in welfare."

These, then, are the reasons for my conclusion that the principles underlying Sec. 205(a) are economically sound. I am, however, a little nervous about the use of the same terminology in Sec. 203(a)(1). Costing methods "reflect" the marginal cost of service presumably by measuring marginal cost as accurately as possible. Rates, however, do not "reflect" marginal costs in precisely the same way, for several reasons.

The first is the question of revenue excess or deficit. There is a long tradition that the aggregate revenues of utilities should be sufficient to permit them to cover prudently incurred costs and earn a fair return on their investment. Rates pegged exactly at marginal costs will not necessarily or even usually

produce total revenues which match the revenue requirements: they may be either above or below. Since total revenues should not be permitted to exceed or fall short of the current revenue requirement (commissions should favor neither windfall profits nor bankruptcy for the utilities in their jurisdiction), rates cannot be set equal to marginal cost. They should be based on marginal cost, but permitted to deviate from marginal cost. The economic prescription for how rates should deviate from marginal cost is that deviations should be permitted where they have the least effect on consumption, or in the least "elastic" types of consumption for groups of consumers. Dr. Joskow's letter to you covers this problem more fully on pages 14 and 15; I can add only the thought that this is in an area in which severe measurement problems combine with equity and other considerations to warrant maximum scope for local fine tuning unfettered by detailed statutory specification.

There are also other reasons that rates may not always equal marginal costs. Commissions may, with good rationale, see fit to make smooth transitions from one rate philosophy to another, and they may--indeed should--choose to act with caution where the size of the response to new rate structures is essentially unknown. They may feel that people who have purchased electricity-consuming equipment when electric rates were configured in one particular way should in the name of equity be given a chance to adjust over a period

of time to unanticipated changes in costs. All of these are considerations which state commissioners should reasonably take into account in setting rates reflecting marginal cost, and it would be unreasonable for Sec. 203(a)(1) to proscribe, or permit the construction that it proscribes, such judgments. The Committee report and the final bill should make that clear. For not only do conditions vary from utility to utility--load factors, seasonal patterns of use, mix of customers and of facilities come to mind--but from time to time: consider the role of fuel costs in rates before and after OPEC came into being.

I must also point to two major problems with Sec. 205(b): the two-year requirement may prove to be unrealistic, and the data requirement too specific. The section puts state regulators in a strait jacket which may be too small for them. A major change of this character in pricing philosophy cannot be legislated into existence overnight. EPRI is spending a year and a lot of money to study the problems, and other ongoing studies and experiments will cover even longer periods. Data required to implement Section 205(b) can be gathered only by installation of many recording demand meters and other equipment not now in wide use. The necessary meters and equipment have to be manufactured, installed and be in operation for at least a year to obtain the required customer demand data. The raw data must then be processed through cost analyses before they can be used for ratemaking purposes. We just do not know

enough at this point to specify in such detail; we do not know whether the data request is insufficient or gross overkill; whether it is worth the cost or unnecessary. Perhaps a more generalized directive, leaving state regulators free to specify the needed information in light of local cost, climate, demand and other circumstances would be appropriate. If not, a generous and realistic interpretation of the exemption provision of Sec. 205(c)(2) will be required, and should be specified in the report.

There are, of course, other sections of Title II which deserve comment.

1. Sec. 202 excludes from its provisions most municipal and cooperative systems, the very entities which have generally never been required to submit their rate structures to outside scrutiny. While I can understand the political force in favor of such an exclusion, I fail to see any economic justification for it. If it is feared that smaller utilities cannot comply with the data requirements of Sec. 205(b)--and that is a well-founded fear, since larger companies will have difficulties with it--that section can, as I have suggested, be rewritten in more general terms and smaller utilities, even if not regulated, made eligible to benefit from financial assistance provisions of Title IV. They, too, should be covered by any rate "reform" bill.

2. Sec. 203(a)(3) provides what has come to be called a lifeline rate to all residential customers, rich or poor, except for the many (including the poor) whose electricity charge is included in rent. It is clearly bad economics, a point I will not develop since it is the subject of another panel, and since Dr. Pace has so thoroughly analyzed it.

3. Sec. 203(b)(2) precludes including in any automatic adjustment clause expenses for goods or services purchased from any person who controls or is controlled by such utility. The drafters of the bill may be unaware that this is of potentially far greater effect than they probably intend. Some jointly-owned plants are owned by a separate corporation which sells power to the stockholders of that corporation for resale. The Yankee plants in New England are one example. Also, some systems consist of a generating subsidiary and distribution subsidiaries tied into a holding company. The bill as it stands would play havoc with these companies by permitting the generating company to charge the distribution company for the generating company's increases in fuel costs, but forbidding those distribution companies to reflect such increases in cost in their charges to their customers. This surely cannot be the intent of the authors of this bill.

If the intent of this provision is, as I suspect, to prevent spurious price increases in fuel owned by subsidiaries, the sponsors should again consider carefully whether

-14-

this section will achieve that end, or whether it will merely have the deleterious effect of discouraging vertical integration into the fuel industries, which some utilities are entering in an effort to control their fuel costs and assure supply. Indeed, such vertical integration should at this juncture in our "energy crisis" be encouraged.

4. The provisions for CWIP subvert the rate reform sections of the bill, will drive up electric rates by raising the cost of capital, and will ultimately threaten the adequacy of power supply--all conclusions which I am sure will be developed by your April 7 panel. Let me here, however, offer a talk (Attachment D) I gave discussing the pros and cons of automatic adjustment clauses, concluding that properly constructed they are pro-, rather than anti-consumer.

- - - - -

In sum, the rate revision principles encompassed in this bill are correct, except for the unfortunate lifeline section. Such revision is important, but, of course, not a panacea: more economic rates will ameliorate, but not solve, our energy problem. The effect on utility costs in the long run will be a good one, but that effect will take time to be felt, since construction programs are long term and consumer habits difficult to change in a democratic society.

NOTE: ATTACHMENT C FOLLOWS ATTACHMENTS A-1, A-2, AND D ARE ON FILE WITH THE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE.

NATIONAL ECONOMIC RESEARCH ASSOCIATES, INC.
CONSULTING ECONOMISTS
80 BROAD STREET, NEW YORK, N.Y. 10004
TELEPHONE: 212-747-3939

JULES JOSKOW
SENIOR VICE PRESIDENT

January 26, 1976

Hon. John D. Dingell
U.S. House of Representatives
3204 House Office Building Annex #2
Washington, D.C. 20515

Hon. Frank E. Moss
U.S. Senate
5202 Dirksen Senate Office Building
Washington, D.C. 20510
ATTN: Energy Work Group

Dear Congressman Dingell and Senator Moss:

In your letter of November 11 to Dr. Irwin M. Stelzer you invited him to comment on the proposed Electric Utility Regulatory Reform Act, H.R. 10100 and S. 2502. Section 202 of the Act deals with Standards of Cost of Service Pricing-- a problem on which I and several of my colleagues at NERA have been spending a considerable amount of time and effort in recent years. Consequently, Dr. Stelzer has requested that I respond for him insofar as Section 202 is concerned.

While it would be a gross overstatement to say that the concept of marginal (or incremental)-cost-based-peak-load pricing, with which Section 202 attempts to deal, is universally accepted there seems to be general agreement among economists that such a pricing scheme, if feasible, is a rational

Hon. John D. Dingell
Hon. Frank E. Moss

January 26, 1976

and economically sound way of pricing. There can be no denying, however, that we are here dealing with a complex and yet evolving process for modification of traditional methods of electric utility rate design. Deep inquiry is therefore in order and one must seriously question whether we now know enough and/or conditions are sufficiently uniform among the electric utilities in this country to permit one meaningfully to legislate at the Federal level the specific costing methodology to be used in ratemaking.

Since I am quite certain others will comment on the problems inherent in the specific subsections of Section 202, I thought it might be useful if I were to provide you, first, with a brief review of the rate revision debate as it is currently taking shape in regulatory and legislative forums. I think you will see from this review that serious and significant movement in the area of peak-load pricing is taking place.

Second, I would like to warn against a view that we are currently in a position immediately to implement fully a soundly based system of peak-load rates. A number of problem areas still exist and I will later describe two--one involving

Hon. John D. Dingell
Hon. Frank E. Moss

January 26, 1976

data and the other equipment--which make complete and immediate implementation of utility rate structure reform impossible.

For the two decades 1950 to 1970 there was relatively little change in the theory and practice of electric ratemaking in the United States. Basically this was a period when inflation rates were very low, when economies of scale for electric generation, transmission and distribution all were bringing average costs down, and when developments in the utilization of electricity were continually pushing out the frontiers of electric use, enabling the electric companies to take advantage of these economies of scale. Rate proceedings were relatively few and far between and usually involved decreases, not increases. The usual homily, "ratemaking is an art and not a science," governed most rate cases and, where there was any costing-out of individual classes of service or rate schedules, the usual allocation method was one or another variant of full allocation of embedded costs, although recognition of incremental cost concepts came into being for certain load factor improving loads.

Several years ago, this period of stability came to an end. With the stepping up of inflation rates, electric costs started to outrun potential savings and one after another of the

Hon. John D. Dingell
Hon. Frank E. Moss

January 26, 1976

major companies which had formerly enjoyed stable rates were forced to file fairly substantial rate increases, on almost a one-a-year basis. Under these circumstances, it was natural that the problems of net revenue erosion began to receive considerable attention, and with the substantial size of the needed increases, the complexity and severity of the problems confronting the commissions required a fuller and more sophisticated presentation in support of the new rates than had previously appeared necessary.

In this context some of the electric companies sought to go beyond the "ratemaking is an art" type of presentation and to amplify their rate presentation by testimony founded in economic theory, which, perforce, raised the issue of the use of marginal, or incremental, cost in structuring the new higher rates. In doing so, because of the problems of applying short-run marginal cost to a capital-intensive industry, it became obvious that the kind of costing to be used had to be a specially devised form of long-run costing, which gradually came to be known as long-run incremental cost, or LRIC. Briefly, this costing approach involved taking the planning period in use by the particular utility, say a five- to ten-year period, and determining over that period what the capital costs of

Hon. John D. Dingell
Hon. Frank E. Moss

January 26, 1976

taking on the corresponding increments of load during that time would be. These capital costs were then annualized, and associated with the corresponding costs of operating and maintaining these facilities. These costs, cast in terms of present dollars, i.e., the dollar value for the period for which the rates were to be applied, were then the costs used in making the computations needed to support the various rate structure proposals. These sets of costs were usually phrased in terms of so many dollars per kilowatt for demand-related costs, plus so many cents per kilowatt-hour for energy costs, and so many dollars per customer per year for customer costs. These costs were then related to the characteristics of service pertaining to the individual rate schedules and rate recommendations derived from these analyses.

Note that these costs were in the nature of annual costs, with demand costs applied to an appropriate measure of capacity responsibility of the class of service being costed. It soon became obvious, however, that some modification to annual costing would be required, particularly with respect to classes of service which did not have demand meters, and the concept of seasonal (usually summer-winter) differentials was

Hon. John D. Dingell
Hon. Frank E. Moss

January 26, 1976

introduced in recognition of the fact that there was a difference in the cost of furnishing service depending on the time, as well as load factor, applicable to the service rendered.

Subsequently, some two years ago, even before the October 1973 war and the later OPEC cartel action, there began a movement to expand further the frontiers of electric rate-making, specifically, to extend marginal cost pricing to marginal cost pricing at particular times of day and seasons of the year. The proponents argued, among other things, that if peak-period costing were applied, uneconomic load growth would be discouraged and, consequently, fewer plants would have to be built (and the countryside saved).

For industrial service this had long been the practice in European countries, notably England and France, and proponents of peak-load pricing began to point to those countries as illustrative of what might be done with electric rates in the United States.

Because the ratemaking principles followed in Britain and France had received such wide publicity, it seemed desirable to find out what was--and what was not--being done in these two countries with respect to economic pricing of electric service.

Hon. John D. Dingell
Hon. Frank E. Moss

January 26, 1976

An investigation was made by NERA, on behalf of a number of electric companies, during the spring of 1974, with the following general result. It was found that in both England and France the larger customers--in general the category which might be described as large industrial and commercial customers--were being billed at two-part rates which varied by the time of day and by the season of the year. In each country, some periods were designated as "peak" periods; another much longer period was designated as a "high-use" period; and other periods were designated as "off-peak." These latter periods were largely weekend and nighttime hours, but also, in the usual instance, were the summer periods since these two countries are predominantly winter-peaking areas.

The costing practiced in the two countries varied somewhat,¹ but, specifically in the case of England, the demand charges for the appropriate period were based on the marginal generating equipment in use during this period, with a factor

¹ It must be noted, however, that while this cost-pricing movement was instituted with considerable care in both countries, there has been relatively little follow-up in recent years, as cost patterns have changed, and the actual schedules in effect did not particularly faithfully reflect the kinds of costs which theory indicates they should.

Hon. John D. Dingell
Hon. Frank E. Moss

January 26, 1976

reflecting the probability that the system peak would be experienced within the period being costed. The energy costs for each period, in a similar way, were related to the running costs of the marginal equipment for that particular period.

Time-of-day or peak-period pricing of the sort generally described above can only be applied through the use of relatively sophisticated metering arrangements. In the case of these two countries, these in general consist of both demand meters and multi-dial kilowatt-hour meters, clock controlled (with spring-wound protection against outages), so that the energy (and demand) use recorded can be switched from one dial to another at the appropriate times called for by the schedule. The meters are in general not recording meters. Since the cost of metering is a very small part of the total cost of service of the larger customers, the requirement that sophisticated metering be used did not stand in the way of applying appropriate pricing.

In neither country was this sort of pricing applied generally to the smaller customers. Each country has optional schedules available to residential and small commercial customers which make it possible for those customers to enjoy an off-peak rate, but the use of these alternative rates is not

Hon. John D. Dingell
Hon. Frank E. Moss

January 26, 1976

at all widespread--indeed a very small percentage of these customers avail themselves of the special rates.

Later reports from both countries indicated that each believes that substantial savings in the annual costs of installed capacity were achieved as a result of peak-load pricing in addition to the savings in operating costs that would be associated with the change in the time pattern of use of electricity that is induced by such a system of rates.²

With the heightened interest in conservation accompanying the movement toward attaining U.S. energy self-sufficiency, the increasing severity of the electric industry's capital requirements problem, and the marked increase in both the frequency and size of rate increase requests, a number of state regulatory commissions, as well as the FEA and the FPC, began to ask serious questions of the electric utilities as to why theoretically "correct" pricing principles should not be followed. LRIC, while it went a long way toward improving the economic caliber of rate schedules, obviously did not go all the way in associating with

² See Charles J. Cicchetti, "Time of Day Pricing: Why and How," Proceedings of the Conference on the Challenge of Load Management, Federal Energy Administration, Conservation Paper No. 24, Washington, D. C., June 11-12, 1975, p. 18.

Hon. John D. Dingell
Hon. Frank E. Moss

January 26, 1976

each class and subclass of service the marginal cost of rendering that service.

In response to those questions, NERA embarked on a study program designed both to develop an appropriate theoretical framework for peak-load pricing as well as to establish appropriate costing procedures for practical implementation of the theory. Particular attention was of course paid to the specific circumstances of the U.S. industry. In this effort we were fortunate in having the cooperation and support of a significant number of utility companies.

Concomitant with our own efforts, the interest in peak-load pricing by various regulatory authorities has resulted in some type of rate reform activity in at least eighteen states. Several states have had or are initiating generic proceedings to inquire into the appropriate type of rate structure for electric utilities under their jurisdiction.

The Public Service Commission in New York State has embarked on a "generic proceeding" on rate structure. Testimony on the "state of the art" with respect to costing and metering by time of use has been submitted in that case by several of my colleagues at NERA and hearings in the first phase have concluded.

Hon. John D. Dingell
Hon. Frank E. Moss

January 26, 1976

In addition, the New York State utilities have been directed to file time-of-day tariffs in their individual rate cases.

The North Carolina Public Service Commission heard testimony from the utilities, various government agencies and interested consumer groups in December. I and several of my colleagues at NERA presented testimony in that proceeding on behalf of one of the North Carolina utilities.

Arizona, Florida, Massachusetts, Maryland, Missouri, Connecticut are other states studying rate structure reform.

In California, hearings were held on this subject during the spring of 1975 and an interim order was issued in October requiring the filing of peak-load rates by that State's utilities.

The States of Wisconsin and Virginia have foregone the "generic proceeding" route and, instead, have ordered certain utilities under their jurisdiction to introduce marginal-cost-related peak-load pricing into their rate structures as soon as the necessary studies are completed. Both the Wisconsin Electric Power Company and the Virginia Electric Power Company have offered such rate structure proposals to their respective commissions.

Hon. John D. Dingell
Hon. Frank E. Moss

January 26, 1976

My colleagues at NERA were involved in the analyses underlying the development of these rate structures for both companies.

I feel quite certain that the foregoing listing represents only a partial compilation of the states in which peak-load pricing is receiving significant attention. It is, however, sufficiently indicative of the activity that is going on.

Finally, the National Association of Regulatory Utility Commissioners (NARUC) passed a resolution at its annual meeting in December 1974 requesting the Edison Electric Institute (EEI) and the Electric Power Research Institute (EPRI) to prepare a joint recommendation for an investigation of costing and rate-making with particular emphasis on peak-load pricing. The study plan that was developed, with NERA participation, is quite extensive--it will go into questions of various costing methodologies, demand elasticities of total use, demand elasticities at the peak, metering technology, load management, storage heating and storage cooling facilities, etc. The Executive Committee of NARUC has approved this study proposal, internal organization has now been completed and the study program, under the direction of Mr. Robert Uhler, is in its implementation stage. It is estimated that this study will take one year to complete.

Hon. John D. Dingell
Hon. Frank E. Moss

January 26, 1976

I will not detail the number of other instances of activity in the area of rate reform alluded to earlier, but what I have described I think demonstrates the intensity of activity in this area.

Whether a regulatory authority pursues the "generic" route or goes directly to requesting utilities to file tariffs incorporating peak-load pricing principles, the first step that must be undertaken in implementing such a peak-load pricing system is the costing process upon which the rates are based. My colleagues at NERA have presented testimony in two state generic proceedings and are in the process of preparing testimony for a third which 1) reviews the economic rationale for pricing electricity on the basis of marginal cost by relevant time periods; 2) sets forth a model to demonstrate how one would calculate these marginal costs; and 3) then proceeds on a step-by-step basis to outline the appropriate procedures for computing the marginal generation, transmission and distribution costs that would provide the basis upon which rates might be appropriately differentiated by time of day or season of the year. The process is not an uncomplex one, and in their testimonies my colleagues deal with certain data and equipment limitations that exist at present in the real world which make complete and immediate implementation of the theoretical construct impossible.

Hon. John D. Dingell
Hon. Frank E. Moss

January 26, 1976

Thus, NERA does not claim to solve all pricing problems through this process. We do argue, however, that the use of marginalist principles will lead to a more efficient utilization of society's scarce resources than will the prevailing alternatives, offering consumers appropriate price signals on the basis of which their usage decisions can be made.

I turn now to the two problem areas to which I believe it is appropriate that special attention be drawn. First, rates based upon marginal costs will have to give some recognition to the price elasticity of demand for electric service. This recognition is required in two aspects of the ratemaking process. Because for most utilities today, marginal costs are likely to exceed average historic costs, rates set at the level of marginal costs are likely to yield total revenues that exceed the historic cost-based revenue requirements of the company. In such circumstances, some, if not all, rates will have to be set below their respective marginal costs. The most economically appropriate procedure for eliminating this "revenue excess" is to set those rates furthest from (below) marginal cost which will least affect consumption, i.e., create the least distortion in resource allocation. Since demand elasticities are essentially measures of the extent to which consumption will be influenced by a change in price, it follows that the rates for those uses

Hon. John D. Dingell
Hon. Frank E. Moss

January 26, 1976

or users which are least elastic are the ones that can be set furthest below marginal costs.

The demand elasticities required for making this kind of analysis are, it should be noted, determinable from econometric studies of the net relationship between price and consumption (total kilowatt-hours of use). Considerable progress has been made during the past two years in the development of reliable determinations of this type of demand analyses. NERA's work has been quite extensive in this area--primarily because of the heavy emphasis now being placed on factoring into load forecasts the effects of rising levels of electricity prices. To the extent, therefore, that elasticity of total consumption by customer class and major types of uses is required for the implementation of peak-load pricing, we are quite confident that the necessary analyses relevant to the circumstances of a particular company can be developed.

The second area in which demand elasticity is relevant to peak-load pricing concerns itself with the extent to which consumption will change within time periods as a result of the establishment of rate differentials among time periods, i.e., the elasticity of peak demand. Information on peak elasticity is important in evaluating the effectiveness of peak-load pricing

Hon. John D. Dingell
Hon. Frank E. Moss

January 26, 1976

in achieving what some consider to be its primary objective-- the shift of consumption from peak to off-peak periods. In addition, such information would also be useful in estimating the revenue attrition that might result from the reduction of use stemming from higher prices on the peak as well as in the evaluation of the potential for creating "needle peaks" in electric consumption patterns.

Unfortunately, however, little research work has been done in this area primarily because of a lack of data that specifically relates consumption by times of use to differential rates. This information gap will certainly be reduced over time as companies introduce time-of-day rates and begin to monitor effects through better load research programs than are presently the rule. In addition, information on this question will likely be developed over the next several years through some of the rate experiments being sponsored by the FEA and various other governmental bodies. Finally, one of the principal study areas in the projected EPRI-EEI study for NARUC will concern itself with this problem.

In the meanwhile, however, the lack of this information requires, I believe, that rate structures based upon time-related marginal costs be somewhat more "conservative" than they

Hon. John D. Dingell
Hon. Frank E. Moss

January 26, 1976

might otherwise have to be. Thus, for instance, peak-rating periods (the interval of time during which the peak rate is applicable) may have to be longer than might otherwise be the case. Similarly, the difference between peak and off-peak rates may, in the initial stages of a peak-load pricing program, have to be less than the marginal costs differences might suggest. The net effect of these "safety measures" would be to delay somewhat the full attainment of all of the benefits it is anticipated will result from the introduction of peak-load pricing.³

A second gap in our current ability to fully implement a peak-load pricing scheme results from the present unavailability of relatively inexpensive appropriate metering equipment. This lack has often been offered as one of the major arguments against peak-load pricing. This is not a reason, however, against applying such pricing to large industrial and commercial customers, many already equipped with suitable meters, for whom incremental metering costs would be minimal compared with the total cost of serving these customers. It may, however, be a valid reason currently for searching for rate alternatives for smaller (primarily residential) customers which do not depend on sophisticated metering. A number of alternatives are available including

³ One proponent of peak-load pricing lists ten potential benefits. See Charles Cicchetti, op. cit., pp. 15-18.

Hon. John D. Dingell
Hon. Frank E. Moss

January 26, 1976

the development of marginal-cost-related bills based upon average usage patterns (discovered through appropriate load research), voluntary time-of-day metering, or mandatory metering for large-volume residential users. But regardless of which alternative is chosen, it is reasonably clear that immediate imposition of rates which requires sophisticated metering for all residential customers is not feasible.

While this situation may continue to exist for several years, it is by no means certain that it is permanent. First, "unconventional" meter technologies are now in the process of being developed. These generally involve signals from a central point superimposed on the distribution system and may permit remote reading of both consumption and electrical demand, combined with load control potentialities. It may be the case that five years or so from now the additional expense of such more comprehensive metering will be cost-justified when the costs are spread among the various objectives to be gained--lower cost meter reading, load management, load research and adaptability to peak-load pricing. It is also reasonable to expect that the existence of peak-load rates will represent an inducement to meter manufacturers to accelerate the technological development of such devices. This entire subject, I should note, will be one of the topics to be investigated in the pending EPRI-EEI study.

Hon. John D. Dingell
Hon. Frank E. Moss

January 26, 1976

Because of our lack of information on peak elasticity and because of the high costs of metering for small customers, a great deal of interest in rate experiments has been expressed by a wide range of concerned parties during the past two years. It seems to be generally agreed that rate experimentation would yield additional information concerning both of these problems. A number of such experiments are now under way in various parts of the country. Some will be completed in about one year, others will take significantly longer.

In recognition of the fact that the development of valid and useful rate experiments will require an expensive and time-consuming program, that portion of the EPRI-EEI study which will deal with rate experiments proposes to (1) define what rate experiments can and can not be expected to accomplish; (2) develop appropriate experimental rate forms with due regard to the diversity of climate, differences in operating and load characteristics (including fuel sources) as well as existing rate levels in the United States; (3) address the topics of sample size, metering and administrative arrangements, the duration of the experiments, etc.; and (4) on the basis of items (1) through (3) determine whether probable cost-benefit considerations indicate that a comprehensive rate experiment program should be embarked

Hon. John D. Dingell
Hon. Frank E. Moss

January 26, 1976

upon. Clearly, if rate experiments are carried out as a result of this study, a considerable additional period of time will have to elapse before usable results can be obtained.

Just as the unavailability of suitable metering equipment for small users should not be taken as a reason for not applying peak-load pricing to large users, so, too, should the lack of experiments not be taken as a reason for delay. Rate experiments for large users are, in any event, inapplicable. Since major capital and labor costs might well be incurred by such customers taking full advantage of peak-load pricing, they would not be likely to make such moves if the offered pricing scheme were labeled as temporary, i.e., experimental. In the case of small customers, experiments might be viewed as a supplement to, but not a substitute for, the gradual introduction of time-of-day rates accompanied by a carefully designed program of load-monitoring research.

In summary, then, we believe that a sufficient foundation now exists for a change from present-day electric rate-making procedures to procedures which are founded on time-related marginal costs. We believe the theoretical foundation is well laid, that the costing process can be implemented and that,

Hon. John D. Dingell
Hon. Frank E. Moss

January 26, 1976

despite certain shortcomings, rates reasonably related to these costs can be developed. We anticipate that the changes that will occur as a result of the introduction of such rates, by giving economically rational signals to users, will help to properly allocate scarce resources and ameliorate the deteriorating supply and financial conditions of the electric utility industry.

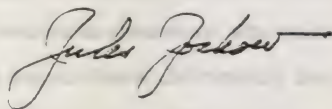
It is NERA's position that discernible improvement will take time in coming, but that some individual states are well on their way toward the implementation of time of use tariffs, as was described above. Setting down legislation such as that in Section 202 of the Electric Utility Regulatory Reform Act cannot help, and will probably hinder, this implementation. Each state regulatory authority must deal with the problems unique to its utilities' service territories which include questions of data availability to determine costs and elasticities, meter availability, load management, monitoring, etc. In addition, the process of deriving the costs upon which time of use rates are based is individual to each utility, and more complex than the misleading simplicity implied in the proposed Section 202. This is not to say that some Federal interaction with state regulatory authorities is not called for. Whether this can be done by

Hon. John D. Dingell
Hon. Frank E. Moss

January 26, 1976

existing agencies, like the FEA, and by what means is, I understand, one of the topics we will be discussing when we meet with Messrs. Berger and Nordhaus and others on February 4.

Very truly yours,

A handwritten signature in cursive script, appearing to read "Julius Rosenberg", with a long horizontal flourish extending to the right.

JJ:dh

TESTIMONY OF
Edward Berlin, Commissioner
New York Public Service Commission

on
H.R. 12461

Before
The House Committee on Interstate
and Foreign Commerce

March 31, 1976

Mr. Chairman and members of the Committee:

I am pleased to appear at these hearings to add my support for the general objectives, and most of the specifics, of Title II of H.R. 12461, which deals with Utility Rate Reform. I have limited my remarks to that Title only because I have been asked to concentrate on the subject of rate design and my silence should not be understood as implying any disagreement with the underlying purpose of other provisions of the legislation. To the contrary, I strongly endorse, in particular, strengthening the Federal Power Commission's ability to insure that the Nation enjoys a coordinated, efficient bulk power supply.

I approach the rate design provisions of the Bill from a somewhat unique perspective. Until last May I was associated with citizen groups who were vigorously pressing State Commissions to adopt the theory of marginal cost pricing and in particular rates which

reflect the seasonal and time-of-day variations in utility costs. Since last May I have been a member of a State regulatory commission with direct responsibility for rate levels and design -- a certain indication that there is a divine being who metes out retribution for I now must pass on the very difficult problems that arise when one seeks to make the transition from theory to practice. And, indeed, there are difficult problems to be resolved including (1) defining marginal costs, (2) determining a proper methodology for their measurement, and (3) translating those costs into rate schedules. Inflation seriously complicates the translation problem. On the one hand it introduces a greater urgency in the need for proper price signals which reflect the actual reality of current consumption decisions; on the other it makes it particularly important to hold rates down to the lowest level possible.

These questions, and the many sub-questions which they in turn introduce, are being considered in New York and elsewhere and I expect that judgments will be made within the next year. But it is important that we understand what is not being, or should not be, debated for it could effect the Congress' judgment as to the reasonableness of enacting prescriptive legislation before the answers are all in.

The enlightened debate is generally not questioning the soundness of marginal cost pricing theory. Instead it is basically examining the extent to which it is feasible to

introduce marginalist theory into electric utility rate structures. It forcefully can be argued that to the extent that it is feasible regulation must seek its incorporation for it generally is agreed that in fixing rates we are to be guided by costs, admittedly with room for departure where necessary to further public policy, for example, antitrust policy. Surely when speaking of "costs" we must have reference to real costs, to actual costs, to costs which are being incurred because of current decisions by consumers.

As I read the marginal cost pricing portion of the legislation it really seeks to remind us of this responsibility while leaving ample room for the resolution of the yet outstanding "flexibility of implementation" questions. The existence of such questions is not, therefore, a sufficient justification for withholding action.

Moreover there is, I believe, a persuasive policy reason why the Congress should move ahead. Congress must be concerned with maximizing the national well being. State regulators understandably will focus on a more limited horizon. This is particularly true today as States fight to retain their base of industrial and commercial activity. It can be expected that any change in State policy that is resisted by the business community will be approached most hesitantly by those in policy positions. We would not wish to be accused of driving industry from the State even if the accusation is baseless. A clear articulation of minimum

national standards would go far toward the elimination of this very real apprehension.

I would not want to leave you with the impression that I believe the adoption of marginal cost pricing principles to be at all detrimental to industry. To the contrary, I believe that industry has the most to gain from the adoption of time-of-day rates. Nevertheless we find that the principal opponents of rate design reform are representatives of industrial and commercial users who appear convinced that marginal cost pricing principles will arbitrarily and discriminatorily be applied against them to the benefit of the residential sector. But there is absolutely nothing inherent in the doctrine of marginal cost pricing which suggests that industry and commerce should subsidize residential users. Indeed, the theory, properly applied, rejects cross-consumer subsidies and the current push for an appraisal of the feasibility of marginal cost pricing is, in large measure, reinforced by a desire to avoid subsidies. The fact is that the true "marginalist" wants each and every consumer to be exposed to price signals which reflect the marginal cost consequences of the individual consumer's personal consumption decisions. I will not dwell on why that is particularly important today beyond pointing out that we no longer can tolerate either the enormous economic burden of plant expansion which is stimulated by inefficient (underpriced) on-peak consumption,

or the needless utilization of inefficient (fuel-intensive) capacity, or the unnecessary consumption of fuel at any time. These are consequences that have immediate cost implications.

Should it be determined that it is feasible to introduce marginal cost pricing principles into rates for electricity, it will no doubt be necessary -- in order to limit the utility's recovery of revenues to its true cost of service which predominantly is influenced by historic and not current costs -- to provide discounts below marginal cost to some consumption. But that does not mean that we should price all industrial consumption at marginal cost and discount all residential consumption. To the contrary, it may mean that we should continue to establish the revenue responsibility of each class more or less as we have in the past and introduce marginal cost principles within each and every class in the way best calculated to promote economic efficiency. This would mean, I think, being most sensitive about the prices charged for marginally costly and elastic consumption of each customer class, where the discount is least likely to cause costly consumption distortions.

Under this approach it should be apparent that certain industrial and commercial customers would fare better than they do under current rate designs. If we do not permit subsidies between customer classes the customer whose ratio of off to on-peak consumption is higher than its class average would receive a lower total bill than

would be the case today. More importantly all customers would be afforded an opportunity to save themselves money, and incidentally save society's resources. All customers will benefit by the effort of any customer to cost minimize if it means a reduction in plant expansion or fuel savings, even the customer who is unavoidably on peak. Indeed, I suggest that the customer who has a large, inelastic, on-peak load should be particularly interested in the adoption of time differentiated rates for that customer, certainly over the long-term, will be impacted most prejudicially by the wasteful expansion of capital intensive plant, at inflated current costs.

It is for these reasons that we in New York, and commissions throughout the Nation, are terribly anxious to review the signals being transmitted by present rate designs. It is also why everyone has a stake in the timely completion of that inquiry.

What I am saying is that as a State regulator, and notwithstanding my conviction that I must be afforded full flexibility and discretion in carrying out my statutory responsibilities, I would not feel at all restricted by the enactment of H.R. 12461. I confess that since leaving Washington and assuming a policy level State position I have, much to my own surprise, become something of a "states rightist." But even from that perspective I cannot offer any persuasive reason why the Congress should not push forward with this legislation which seems to preserve

a proper measure of State flexibility while removing a serious inhibition to innovative State action -- the fear that business will relocate to a State that has a more "sympathetic" regulatory climate.

I do not wish to leave the impression that nothing is now being done at the State level. To the contrary, New York is but one of eight States that is now in the process of conducting a generic rate design proceeding ^{1/} and is but one of 15 jurisdictions that has mandated consideration of time-of-day rates in an individual company rate proceeding.^{2/} As many as ten States are in the process of conducting rate design experiments, several of which are being funded by the Federal Energy Administration. Finally, following the passage of a December 1974 resolution by the National Association of Regulatory Utility Commissioners, the Edison Electric Institute and the Electric Power Research Institute are cooperating in an extensive study of peak load costing methodologies, load management techniques, and demand elasticities. The study, which commenced this past January, should be completed by early next year.

^{1/} The others being California, Connecticut, Florida, Maryland, Massachusetts, New Hampshire and North Carolina.

^{2/} The others being California, Colorado, District of Columbia, Hawaii, Maine, Michigan, Minnesota, North Carolina, Oregon, Pennsylvania, Utah, Vermont, Virginia and Wisconsin.

I would like to comment specifically on Section 203(a)(3)(A) which would legislate a "lifeline" rate. As one with responsibility for approving the structure of utility rates I am reminded daily of the particularly severe burden rate increases impose on the poor and I understand the pressure being exerted to utilize rate policy for achieving income redistribution. I too hold the view that the growing maldistribution of income represents our single most serious domestic problem and I would eagerly press the limits of my lawful authority to restructure rates if I could, with confidence, anticipate positive income effects. I am, therefore, totally sympathetic with the understandable push for "lifeline" rates.

Nevertheless I am hesitant to endorse the suggested legislative solution because I am concerned that it most surely will severely penalize significant numbers of low income families while benefiting more affluent consumers. Presumably the subsidy that would be provided to the lower levels of consumption would be made up by getting increased revenues from the higher levels of consumption in the residential category. That would mean a substantial rate increase for consumption beyond the lifeline block. But can we be certain that the low-income consumer and the low-usage consumer are the same? Testimony recently submitted to the New York Commission by Dr. Stelzer's firm indicates that we cannot be at all sanguine about that conclusion. We must of course be mindful of the fact

that the low-income consumer often lives in a less efficiently constructed dwelling, typically spends more time at home, and often has a larger family. Therefore, if we overcharge for the higher blocks of consumption we could be extracting a subsidy from some low-income consumers in order to undercharge certain affluent consumers.

Nor is it clear that this perverse effect is avoided by shifting responsibility for the subsidy to the commercial and industrial classes. As with all costs of doing business the price paid for utility services will be reflected in the prices charged by those firms for the goods or services offered to consumers. Since the low-income individual spends a larger portion of his income on consumable goods, electing to finance the subsidy in this way could be quite regressive. It certainly would be economically detrimental to the large minority of poor whose utilities are included in their rent. The landlord would be forced to pay the higher commercial rate and the increase would be passed through to the tenant.

There are additional problems, apart from the fact that the distributional objective of lifeline rates might not be achieved. The provision of an arbitrary number of kilowatthours to all residential consumers at a rate below cost might counteract our conservation objectives by stimulating consumption. A cut rate would

certainly induce persons to consume the full amount of electricity that is the subject of the subsidy and if a portion of the cost of the lifeline discount is imposed on the commercial and industrial categories it could result in all but the very largest levels of residential consumption being priced below cost.

If the objective is income redistribution, is it not far more reasonable to relate the extent of the subsidy to the individual consumer's income and number of dependents? One way of accomplishing that is through the issuance of energy stamps in a manner analogous to the food stamp program. It may not avoid, however, two of the common criticisms that are leveled against the latter program: first, the very high level of administrative costs, and second, the fact that many of the most needy are reluctant to apply for welfare-type assistance. Moreover, a stamp program would shift the cost to tax-supported government funding, a most unlikely event under current economic circumstances.

To avoid these difficulties, I suggest giving an income tax credit for utility services to persons whose adjusted gross income does not exceed a prescribed level, say \$5,000, with the amount of the credit tied to the taxpayer's number of dependents. Even though it may be difficult to administer, the plan should provide greater credit as the income level declines below the point of

eligibility. Obviously any such program would require the acceptance of a negative income tax and the undertaking of an educational effort to remind and assist those who would benefit to file returns.

The amount of the tax credits would then be assessed against the utility supplying service and could, in turn, be recovered as part of the utility's cost of service. To some minor extent that could dilute the subsidy but at least it would put dollars into hands that need them and would represent a start, however modest, toward income redistribution. Conservation, too, should be furthered. Under traditional lifeline proposals the consumer maximizes the benefit he receives by consuming up to the full level of the kilowatthours that are discounted below cost. Under my proposal the consumer would retain the full tax credit or refund even if he reduced consumption and since electricity would not be sold below cost distorted price signals would not be transmitted in the marketplace. And, as is also true of energy stamps, we would not be discriminating between the poor based upon the type of fuel they rely upon for satisfaction of their energy needs. The low-income consumer who heats with oil would not be excluded or in any way disadvantaged for the amount of the income subsidy would be determined by economic factors and not by the idiosyncrasies of fuel choice over which the individual consumer exercised little, if any, control.

I recognize that under H.R.12461 States would be free to adopt an income tax credit or some other program tailored specifically to meet the needs of the poor. I fear, however, that following the enactment of the type of lifeline proposal contemplated by this legislation it will be exceedingly difficult to enact State legislation that in fact is directed at the accomplishment of income redistribution for there is a growing political temptation to do something that would appear to benefit everyone. As I am sure the Committee recognizes, there is simply no way to subsidize everyone, not even everyone in the residential class, at least not without imposing a substantial non-cost justified burden on industrial and commercial consumers and thereby introducing into the residential rate structure a promotional thrust that is entirely inconsistent with this legislation's basic move toward the pursuit of efficiency.

I urge the Committee, therefore, to consider the possibility of a modified proposal along the lines that I have suggested (which I recognize may be beyond this Committee's jurisdiction) so that we would in fact be extending a "lifeline" without sacrificing efficiency.

STATEMENT OF J. H. RANNIGER
ON BEHALF OF EDISON ELECTRIC INSTITUTE
BEFORE SUBCOMMITTEE ON ENERGY AND POWER OF
HOUSE INTERSTATE AND FOREIGN COMMERCE COMMITTEE
WITH RESPECT TO H.R. 12461
MARCH 31, 1976

My name is J. H. Ranniger. I am Manager of Rates and Regulations for and an Assistant Treasurer of Public Service Company of Colorado. I am a member of the Edison Electric Institute (EEI) Rate Research Committee and am Chairman of the Task Force Coordinating Committee of the organization of electric utility industry and regulatory agency personnel conducting the nationwide electric utility rate design study in response to a request of the National Association of Regulatory Utility Commissioners (NARUC). It is on behalf of EEI that this appearance is being made. I am happy to have the opportunity to represent the industry in this capacity in offering the following statement to the Subcommittee on Energy and Power of the House Interstate and Foreign Commerce Committee.

The statement contained herein addresses itself to the portion of H.R. 12461 relating to the design of electric utility rates and to the determination of cost of service yielding those rate designs. Specifically, this statement relates to the rate design portion of Sections 203 and 205 of Title II of the subject proposed bill. Sections 203 and 205 of the bill could have a harmful effect on the industry in both the long run and the short

run. In the long run, the bill, by legislating a particular method of determining rates, could effectively legislate against research in the field of rate design and stifle the industry search for more equitable methods of allocating costs to its customers.

Existing forms of electric utility rates are in two general categories. They are declining block energy rates incorporating demand charges or a combination of declining block demand rates and declining block energy rates. These rate forms, or a variation thereof, have served the electric utility industry and its customers well for many years. Those rate forms are still appropriate in many cases. However, recent events and prospective events reflecting unprecedented inflation rates, raw energy shortages, and capital shortages have caused the industry, its regulators, legislators, and other interested parties to come forth with a myriad of rate reform proposals. In response to the need to review the propriety of electric rate forms, the industry and its regulators have responded aggressively and in a comprehensive manner. The proponents of this bill have failed to recognize that the industry and its regulators have so responded.

There are today in the United States, numerous major efforts directed toward the sound analysis of possible changes relating to electric rates and the effect of those changes. The Federal Energy Administration currently has several demonstration projects underway and has issued invitations for

proposals for additional projects. Numerous states have conducted or are in the process of conducting generic hearings relating to electric rates. A great many individual companies are examining the possibilities and proprieties of modifying their rate structures.

In response to a resolution passed at the 86th Annual Convention of NARUC, the industry and its regulators have undertaken what is the farthest reaching and most comprehensive study of electric utility rate design that has ever been attempted in this country. The study being conducted at the request of NARUC incorporates far more than the rate design portion of the proposed legislation which is the subject of this statement. The study being done by EEI and the Electric Power Research Institute (EPRI) for NARUC is analyzing such topics as analysis of the various pricing approaches (historical rate theory and practice, United States and foreign); consideration of demand elasticity for electricity; rate experiments involving smaller customers; costing for peak load pricing; peak load ratemaking; measuring the potential cost advantages of peak load pricing; metering equipment; technology for utilization; mechanical controls and penalty pricing; and customer acceptance of load shifting.

Information produced by this study and by other studies which have previously been mentioned will undoubtedly provide the electric utility industry and its regulators with the knowledge and methodology to appropriately adjust rate forms

commensurate with the unique operating characteristics of each electric utility system in the country. Each utility system possesses its own unique characteristics involving geographic location; differences in operating characteristics, including sources of basic energy; differences in load characteristics; and economic impact on customers. Any changes in utility rate forms must have a sound theoretical basis coupled with practical applicability. Extreme caution must be exercised in determining the suitability of particular pricing modes to an individual system and its customers. The studies currently in process, and particularly the EEI/EPRI study, promise to yield the sound basis for changes and provide the flexibility necessary between various utility systems for the effective implementation of appropriate changes.

Modifications to electric utility rates are nothing new. There has been gradual evolution of electric utility rates over the last several decades. That evolution has accelerated in the past several years due to changing philosophies relative to the cost tracking nature of rates, and due to improved technologies for allocation of costs to make those rates more cost tracking. I believe it would be fair to say that the industry today generally subscribes to the cost tracking approach and that there is concerted effort to make rates track those costs.

There is, however, considerable disagreement as to what constitutes the proper calculation and allocation of costs

to make those rates cost tracking. In order to understand some of the controversy presently surrounding costing methodology, it is necessary to understand that there are two principal cost components associated with the rendition of electric service. Those two principal cost components are demand costs and commodity costs. The demand costs are independent of energy costs and are made up of ownership costs, or fixed costs, on facilities installed to meet the demand of a utility and of certain operation and maintenance expenses which are related to the existence of those facilities. Commodity costs are largely fuel costs but also include certain operation and maintenance costs attributable to the production and delivery of energy. Demand costs can amount to less than half the cost of rendering service in situations where utilities experience a high use of high priced oil as their source of energy. Demand costs can be a major portion of the cost of rendering service for electric systems where the cost of raw energy is low or is provided by falling water. In any case, the demand component of the cost exists before the production and delivery of the first kilowatt hour of electricity.

Demand costs must be recovered early in the pricing structure or the rate fails to be cost tracking. Such early recovery of those demand costs dictates rates of the declining block energy type incorporating demand costs or of the combination of block demand rates and block energy rates. The concept of some that declining block rates are designed for promotional

purposes or are not cost tracking is erroneous.

Another matter which must be considered in the design of rates is recognition that both on-peak and off-peak customers share the same facilities and that high load factor customers get a greater proportionate use of those facilities than do low load factor customers. There are some schools of economic thought which dictate that only the on-peak customers should be assessed demand charges associated with the utility's peak load. I submit that failure to recognize the use of those demand facilities by off-peak customers by failing to charge the off-peak customers for the use of such facilities is totally inequitable. I further submit that failure to recognize degree of use of those facilities is totally inequitable.

Mandated rate design principles as contained in the subject proposed legislation would create inequities as defined. The industry, through the evolution of rate design practices, has developed techniques and presently uses techniques involving more conventional cost allocation procedures which equitably assign the cost of rendering service to the customers. While I support the desirability of cost tracking rates, I submit that a single set of mandated rules applicable to all of the United States will result in serious inequities in the development of cost tracking rates.

Section 203 of the proposed legislation requires that rates reflect the costs of providing electric service to the consumers. This section further provides that the costs shall

be determined by the state regulatory authority in accordance with Section 205. The requirements of Section 205, which will be discussed at length in a subsequent portion of this statement, do not create a situation reflecting the costs of providing service to all customers.

Section 203 prohibits the use of declining block rates except to the extent that a utility may show in an evidentiary hearing that such declining rates reflect the cost of providing electric service. As set forth in the foregoing, that declining cost is inherent within the cost structure of providing utility service. Accordingly, this provision is without practical use.

Section 203 further requires that each electric utility shall provide a minimum rate to a residential electric consumer for a subsistence quantity of electric energy. This approach, which incorporates what has commonly come to be known as a "lifeline rate," is contradictory to what appears to be the major intent of Section 203 of the proposed bill. Section 203 apparently provides for rates to be cost tracking. Establishment of an arbitrarily low rate for a subsistence quantity of electric energy is contradictory to the balance of Section 203.

Section 205 of the proposed legislation requires that the determination of cost of service must reflect marginal costs of service to each electric consumer including differences in costs incurred attributable to daily and seasonal time-of-use service. When such time-of-use cost differences do occur, it is appropriate to include these differences in rate structures if

those rate structures are to be cost tracking. However, the use of marginal costs, or long run incremental costs as such techniques have come to be known in the industry, requires careful consideration of the application of the marginal costing economic theory to the practicalities of rate calculation.

Peak load pricing and economic pricing theories have recently become matters of great interest by those responsible for utility rate design in the United States, by those responsible for the regulation of utility companies, and by those who have entered the utility rate design arena with the intent of convincing utility executives, regulators and legislators of the propriety of their pricing theories. Peak load pricing simply means a pricing system whereby prices of utility service are priced higher during periods of peak demand on the utility system. Peak load pricing may occur during one or more time intervals during a daily period, during certain days of the week, seasonally, etc. The goal of peak load pricing is simply to flatten the load curve of the utility, improve the load factor, and thereby create greater economic efficiencies of the investment in utility facilities.

The goal of achieving more economic efficiency of utility facilities is not new and is not a result of the current flurry of activity of a myriad of individuals in this country. The method of achieving this greater economic efficiency is, however, different today than it was a few years ago. Up until the late 1960's or early 1970's, it was the common practice of

utilities to flatten their load curve and improve their load factor by promoting off-peak use. Promotion of energy use today is not in accord with raw energy supply considerations or popular societal philosophies.

With inflationary cost spirals developing during the past decade, many individuals have developed an avid interest in utility pricing procedures. One goal is still the same, i.e., to flatten load curves and improve load factor, thereby achieving a greater economic efficiency of utility facilities. A new dimension in utility pricing has however, been introduced. This new dimension was first initiated by a number of economists based largely on their economic theories and without particular regard to the practical implications of application of these theories to utility pricing techniques. While some economists are gradually adapting their economic theory to the practicalities of utility operation, there are still those who are vocally advocating utility pricing strictly on economic theories. As a result, the industry and its regulators find themselves in a great morass of economic theory exhibiting a substantial range of quality.

This material is set forth for the purpose of sorting out the pros and cons of peak load pricing and economic pricing theories from the viewpoint of a practitioner in the rate design field. These observations are intended to show that peak load pricing clearly has its place in utility rate structures, and that highly theoretical economic theories have little, if any, place in actual ratemaking practice.

Peak load pricing is a concept to be encouraged throughout the entire spectrum of United States utility operations. That encouragement, however, carries with it certain caveats. First and foremost, there must be recognition of existing and prospective system characteristics of each individual utility system. Some utility systems already possess high load factors and relatively flat load curves which greatly diminish the attractiveness of peak load pricing techniques. In order to determine whether or not a given utility system should introduce peak load pricing, either for its existing or prospective customers, there are several things which must be considered. System benefits must be ascertained. It is frequently assumed that peak load pricing will create system benefits. Techniques for ascertaining system benefits are only in the process of being developed at the present time. Until there is a solid method of determining system benefits, it cannot be assumed that widely applied peak load pricing will benefit customers. Determination of these system benefits must recognize maintenance requirements, which of course prevent a flat load curve over 365 days of the year and prevent a 100 percent load factor. Consideration of system benefits must also include the relatively high metering costs associated with peak load pricing.

Consideration must also be given to the continuity of service desired. It has frequently been alleged that peak load pricing is a panacea in foreign countries. Differences in acceptable continuity of service levels and standard of living

must be taken into account when comparing peak load pricing operations in foreign countries with the potential of such pricing in this country. Assuming that peak load pricing does appear to be economically attractive to a given utility system and its customers, there are additional matters which must be considered. Probably, one of the more difficult questions, but one of paramount importance, is the question of demand elasticity. Will peak load pricing, in fact, cause people to shift their loads to off-peak periods? The answer to this question undoubtedly is largely dependent upon the general level of rates on a given utility system. On a system where rates are relatively low, peak load pricing incentives will be much less effective than they are on a system where electric rates are relatively high. It becomes a question of how much people are willing to pay for the inconvenience of shifting their electric use. Another consideration which cannot be overlooked, even though it may not be related to the economic propriety of peak load pricing, is that peak load pricing may severely disrupt ratemaking continuity. This is a matter which responsible utility managements and concerned regulators cannot overlook.

Peak load pricing and the apparent desirability of such a pricing technique need not be related to economic pricing theories. Peak load pricing is perfectly capable of being implemented with appropriate cost levels through the use of existing costing techniques, or more probably, through the use of arbitrarily high on-peak off-peak differentials. It is

the consensus of opinion of many rate practitioners in the country today, that on-peak off-peak differentials calculated either by existing costing techniques or in accordance with economic pricing theories, if such theories in fact lend themselves to calculation, will not be adequate to encourage shifting of electric use to off-peak periods and that such incentive must be created by arbitrary differentials.

While many individuals today would attempt to make a direct tie between peak load pricing and economic pricing theories, I have a general impression that those individuals who have become aware of the practicalities of utility pricing and who have carefully analyzed the inherent infirmities in some of the economic pricing theories are gradually coming to the realization that there may not be a direct tie between peak load pricing and economic pricing theories. Therefore, it may well be concluded that peak load pricing may be accomplished without application of the various economic pricing theories.

Economic pricing theories have been referred to on several occasions in the foregoing. These pricing theories usually revolve about some marginal costing techniques and have, as I said, generally come to be known as long run incremental costs (LRIC). While the theory of LRIC is now well established and is generally understood, it is recognized by most individuals attempting to apply the concept to field situations that universally acceptable calculating techniques with which the LRIC theory might be applied are not yet developed, and in fact,

may not be possible.

There are, in addition to the absence of universally acceptable calculating procedures, several things which should be known when LRIC is being considered. These are as follows:

1. LRIC is based on future costs and therefore is compatible with a future year test year only.
2. There is no good way of defining the future time period to be covered by LRIC, hence a lot of guesswork results. Some allege that LRIC should be considered in the future as far as ten years, while others are alleging that the time period should be only two or three years.
3. LRIC does not recognize the large base of embedded costs which cannot be ignored.
4. LRIC does not recognize that off-peak loads should have significant demand related cost responsibility. If it was not for the on-peak customers, there would be no peak facilities with which to provide off-peak service.
5. In the present inclining cost economy, LRIC calculations would result in excessive revenues which then must be arbitrarily reduced to get revenues within an allowable earnings range. Such reduction, which must be arbitrary because no workable rational method has been developed, significantly nullifies any benefits which may

result from LRIC calculations.

6. Since all costs are based on projections extending far into the future, results are highly questionable. This is not to say that projection of one year into the future is necessarily bad for future year test year purposes, but it is to say that a projected test period of ten years or so into the future results in nothing more than crystal ball gazing.
7. Even though the proponents of LRIC are universally critical of fully allocated cost procedures, allocation appears to be necessary in order to obtain certain basic cost parameters to be used in LRIC calculations. Allocation is also necessary to allocate certain costs between classes of service once LRIC costs are determined.
8. LRIC calculations must be based on comprehensive individual system load data. Very few systems now possess such data and the acquisition of such data is time consuming and costly. Extensive load research projects must be conducted over a minimum period of one year to obtain the necessary data.
9. Costs based on an immediate past or immediate future test year using conventional costing techniques are more apt to be cost tracking than LRIC costs with all of the necessary adjustments

and estimates that are inherent to an LRIC calculation.

10. LRIC theory relies heavily on alleged practices in foreign countries where life styles and society differ greatly from that in the United states. Public reaction to costing techniques cannot be ignored.

Those knowledgeable in the field of electric utility ratemaking, which includes those with the responsibility for practical application of ratemaking techniques, generally conclude that peak load pricing has the potential of being a beneficial pricing procedure. However, both peak load pricing and economic pricing theories are being extensively investigated and studied as I have previously indicated. Pending outcome of those analyses, most utilities are keeping an open mind on both peak load pricing, long run incremental costing techniques, and other economic related pricing theories. Until the results of those studies are known, any broad application, and certainly any mandated application of the economic pricing theories would be premature and in fact would be extremely dangerous to utility companies and customers alike. Furthermore, a given theoretical principal cannot be considered universally applicable to all electric utility systems.

I think it is of significance to note that there is recognition by regulators of the need to wait for the results of the aforementioned EEI/EPRI rate design study before action

is taken on peak load pricing without the benefits of information to be produced by that study. The March 15, 1976 Bulletin of NARUC states:

"The Virginia State Corporation Commission has announced it will extend its own investigation of peak load electricity pricing until completion of a national study of electric rate design."

"In announcing its decision to carry over its investigation until results of the national study are known, the Commission said:

'The threshold question which must be answered before a decision is reached concerning the implementation of such rates is 'Will time-of-usage rates benefit consumers?' This question is simple; the answers are quite complex.'

"No responsible person would advocate spending the large sums required to put time-of-usage rates into effect without the most comprehensive study, the Commission added."

"Any revised rate forms must be in the consumers' interest or they should not be used," it said. "Before implementation of time-of-usage rates, there must be reasonable assurance of an economic benefit to the public."

It would appear to me that the Virginia Commission is taking a rational approach to this complex matter. I would urge the Congress to act similarly by not enacting unnecessary and potentially harmful legislation.

PANEL ON LOAD MANAGEMENT

STATEMENTS OF: ROBERT G. UHLER, MARTIN K. MILLER, CHARLES
KING THOMAS LAASPERE, HERMAN DIECKAMP, AND EDWARD
V. SHERRY

The first part of the paper discusses the importance of the study of the history of the United States. It is argued that a knowledge of the past is essential for a full understanding of the present. The author then goes on to discuss the various factors which have shaped the development of the United States, including the influence of the British, the Spanish, and the French. The paper concludes by stating that the study of the history of the United States is a task of great importance and interest.

THE HISTORY OF THE UNITED STATES

The history of the United States is a complex and fascinating story. It begins with the first settlers, the Pilgrims, who came to the New World in 1620. They were followed by other groups of settlers, including the Puritans, the Quakers, and the Catholics. The United States was then a collection of separate colonies, each with its own government and laws. In 1776, the colonies declared their independence from Great Britain, and the United States was born. The new nation was then faced with the task of building a government and a society. The Constitution was written in 1787, and the United States has since been a democracy. The history of the United States is a story of growth, change, and progress. It is a story that is still being written.

LOAD MANAGEMENT AND RATE DESIGN:

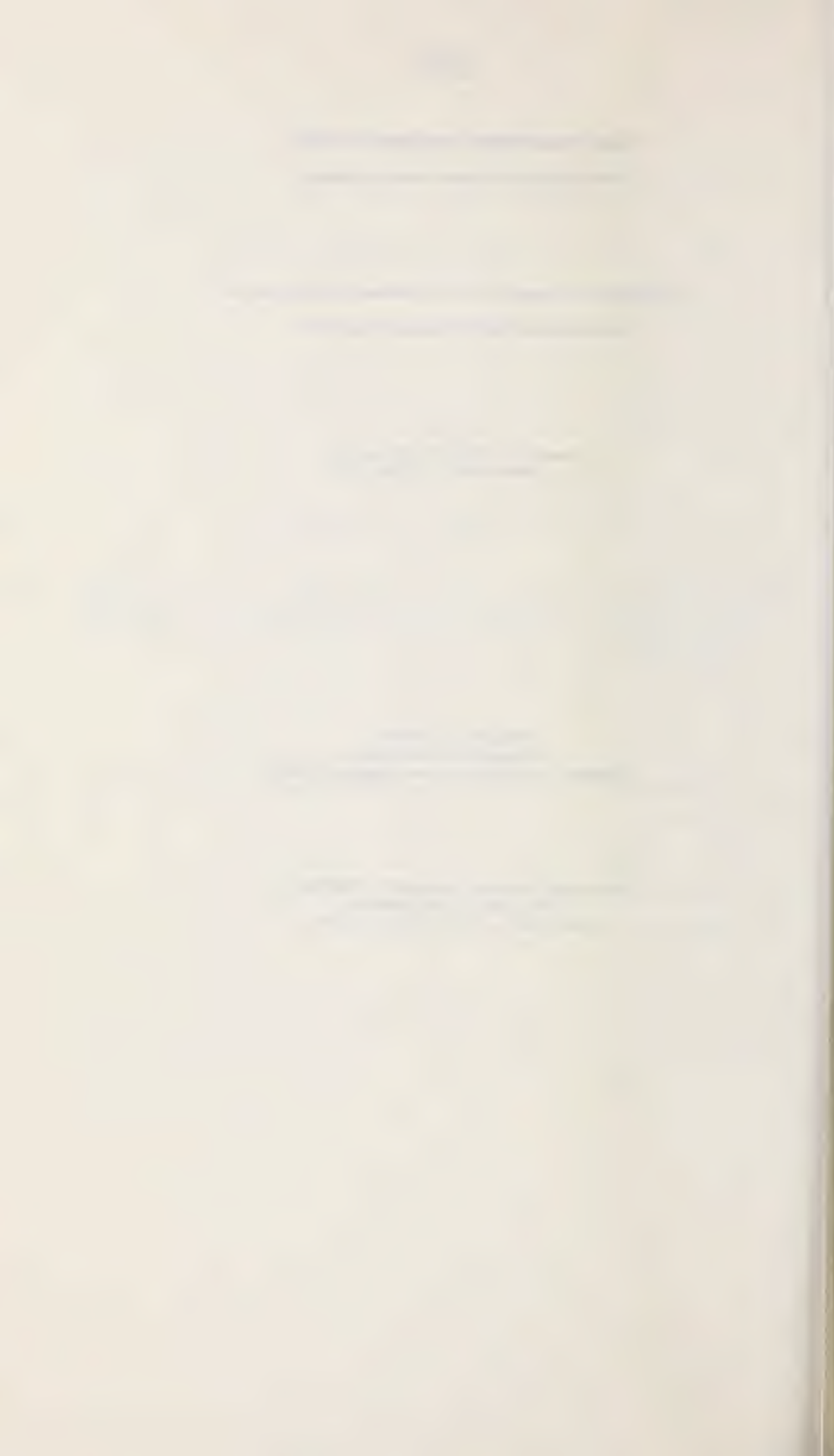
The EPRI-EEI Rate Design Study

A Progress Report to the House Committee on
Interstate and Foreign Commerce

Electric Utility Hearings
March 31, 1976

Robert G. Uhler
Executive Director
Electric Utility Rate Design Study

ELECTRIC POWER RESEARCH INSTITUTE
3412 Hillview Avenue
Palo Alto, California 94303



LOAD MANAGEMENT AND RATE DESIGN:

The EPRI-EEI Rate Design Study

Robert G. Uhler
Executive Director
Electric Utility Rate Design

The EPRI/EEI Rate Design Study is examining the general question of load management by pricing as well as by various control methods. Although peak load pricing occupies "center stage," the participants of the Study are approaching the problem of efficiency in providing service quite broadly (see Attachment A, EPRI Journal article). A progress report follows:

I., Background and Plan of Work: On December 5, 1974, NARUC adopted Resolution No. 9 which requested the Electric Power Research Institute (EPRI) and the Edison Electric Institute (EEI) "to initiate a study of the technology and cost of time-of-day metering and electronic methods of controlling peak-period usage of electricity, and also a study of the feasibility and cost of shifting various types of usage from peak to off-peak periods." In response to NARUC's request, members of EEI's Rate Research Committee and the Load Research Committee of the Association of Edison Illuminating Companies drafted a research outline. EPRI reviewed this and, with advice from National Economic Research Associates, prepared a comprehensive plan encompassing 10 research topics. The Plan of Study was published September 24, 1975 (see Attachment B).

In the Plan, "control and management of peaks have been given emphasis, for the possibility of lessening electric system peak demand growth." The study, however, is not "limited to mechanical or short-run approaches to the problem." The Plan also considers "the economic functions of price as furthering the aim of management of load growth." In addition, the Plan provides for assessing "the possibility of basing individual rates on incremental rather than historical costs within the limit of aggregate revenue requirements." Thus, two key points, costs and time of use, have been emphasized. The "objective of developing superior rate design techniques, including the necessary measurement support, has been kept uppermost in the structuring of the project."

Fundamentally, the Plan affirms the regulatory concept of basing rates on the "cost to the utility of providing" service. Moreover, the research plan recognizes that since costs may vary by season or time of day, periodic rates may be a pragmatic technique. Peak load pricing, therefore, is considered a promising mechanism for approaching the study's goal. Finally, the project recognizes that the development of such a rate design framework must also meet the accepted regulatory "just and reasonable" standards.

II. Organization & Functions: Concurrent with the development of the Plan of Study, the major participants in the joint research effort organized and staffed three supervisory committees

and ten working task forces. This structure is described in Organization and Functions (see Attachment C). In brief, the Executive Committee provides the "broad organizational authority" of the sponsoring parties (i.e., NARUC, EPRI, and EEI). The Project Committee exercises "overall responsibility for the technical content of the work." In addition, the Project Committee provides "strong guidance" to the Executive Director "to insure that the end product" is responsive to the needs of NARUC.

The Executive Director is responsible for the day-to-day direction of the project, the development of the end product, the supervision of the consultants and the assignment of work to task forces via the Task Forces Coordinating Committee. The Coordinating Committee monitors the work of the 10 task forces that prepare specific written reports. The Coordinating Committee and task forces provide vital professional input to the study because of the broad experience of the more than 100 men and women who make up these groups.

Representatives from NARUC are on all three supervisory committees and on all ten task forces. About 30 men and women from regulatory commissions are participating. They come from sixteen different states. Thus, the activities of the project are responsive to the evolving requirements of regulators. Moreover, the work of consultants will be monitored by company officials of

the participating utilities as well as by representatives of the State Commission having jurisdiction. In summary, the NARUC presence is widespread and forceful.

III. Overall Status of Research: The Plan of Study, which defines objectives as well as the scope of ten topics, was the basis for two competitive EPRI Requests for Proposals. From the 29 responses to the first RFP, four consulting firms (including EBASCO Services) were selected to work on nine of the ten topics. Also, NERA, a major economic consulting firm, was retained to examine Topics 1-5 because of NERA's particular expertise in the area of rate design and regulatory economics.

The second RFP was released just for Topic 6. Some 25 consultants responded with three firms being selected. In addition, a management consulting firm, Temple, Barker & Sloane, was chosen to serve in a staff function to the project and to assist in the preparation of the Overview Report to NARUC. This firm will combine materials from all ten task forces as well as from other consultants.

Contracts totalling about \$750,000 have been negotiated with nine consultants. At least four additional minor contracts are anticipated during April and four still smaller projects are contemplated for May. These eight "follow-on or back-up" research contracts will total about \$150,000.

The Task Forces Coordinating Committee recently published its Comprehensive Task Force Work Plan. This document outlines the scope of work for each task force by subtopic. In addition, deadlines for task force reports are established. Preliminary task force draft reports are scheduled for April with more complete documents following during the summer. These task force efforts are closely coordinated with the work of each consultant to insure complete coverage and detailed responsiveness to NARUC Resolution 9.

A number of participating utilities have been identified. Some 20 companies have been queried to determine their willingness to serve as "case studies" for work under the various topics. Given engineering characteristics, availability of data, and willingness to participate, a "First Set" of utilities is being developed. The first participating utility (i.e., Virginia Electric Power Company) has been announced. This "First Set" of companies will provide the data (i.e., the raw empirical materials) for the consulting firms. The task forces, of course, will work with this set of companies. In many cases the task force members will come from these utilities or their related commissions.

IV. The Ten Topics:

1. Analysis of Various Pricing Approaches: Assess traditional theory and practice as well as innovative designs such as peak load pricing.

2. Elasticity of Demand for Electricity: Assess price elasticity both on average and at peak.
3. Rate Experiments for Smaller Customers: Evaluate present and possible rate experiments.
4. Costing for Peak Load Pricing: Develop costing methodology for peak load pricing, including incremental costing.
5. Ratemaking: Design peak load pricing rate forms consistent with revenue constraints and metering technology.
6. Measuring Advantages of Peak Load Pricing: Develop methodology for evaluating advantages of load shifting.
7. Metering: Assess existing equipment including electronics.
8. Technology for Utilization: Assess equipment useful for peak load pricing.
9. Mechanical Controls and Penalty Pricing: Evaluate controls on customer premises and assess penalty pricing.

10. Customer Acceptance: Assess customer reactions to peak load pricing and load management.

V. Publications: The following documents have been released:

1. Plan of Study, September 24, 1975.
2. Organization and Functions, February 26, 1976.
3. Comprehensive Task Force Work Plan, February 2, 1976.
4. State and Federal Regulatory Commissions Rate Design Activities, February 16, 1976.
5. Task Force Bibliographies, March 12, 1976.
6. Project Committee's Interim Progress Report, March 19, 1976.

VI. Conclusions: The research program is well underway with both task forces and consultants working -- independently and cooperatively (see Attachment D, Interim Progress Report). The Plan of Work is responsive to NARUC Resolution 9 while the organizational structure will insure an objective and critical appraisal of the substantive issues. The level of funding for the year's work is sufficient, while the diversity of views and the depth of expertise of the participants are more than adequate. To date, the support and cooperation of all groups has been excellent.

The consumer pressures exist, the equipment is being developed, and the costing methods are being studied for setting rates in localized applications.

An intensive EPRI-EEI program is assessing conceptual and technological problems of peak load pricing and load management for different regions of the United States. • An EPRI program article

Should Utility Rates Be Redesigned?

Robert G. Uhler

Quite recently consumers discovered that PUC means Public Utility Commission. Further, they now realize that commission decisions affect their electric bills, now totaling some \$50 billion annually after large rate increases in 1974 and 1975.

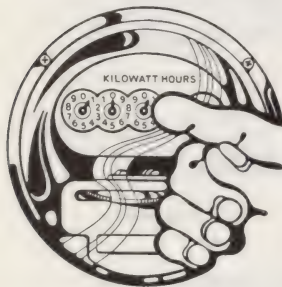
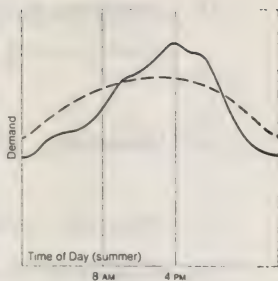
Commission decisions and practices have become front-page news. Regulators, at times unhappily, must now explain bewildering technical terms, such as *normalization*, to consumers and local newspapers.

Utility executives are equally on center stage. One charismatic utility president has equipped his office as a ministudio so he can forcefully defend his company's rate filings on the six o'clock news.

Today's heightened public awareness and lively dialogue are salutary for a giant industry just entering its second century. Considering the rapidly evolving economic and political realities, this airing of costing concepts and ratemaking principles, as well as the evaluation of new technology for load management, seems both necessary and prudent. Thus, the country's largest industry is candidly reexamining the way it prices its output.

Defining the problem

As an integral part of rate design reappraisal, the National Association of Regulatory Utility Commissioners (NARUC) responded to increasing demands on the regulatory community to assess time-of-day pricing. At its 1974 annual meeting in San Diego, NARUC asked EPRI and the Edison Electric Institute (EEI) to examine the technology



Robert G. Uhler is executive director of the Electric Utility Rate Design Study, jointly sponsored by EPRI and EEI on behalf of NARUC.

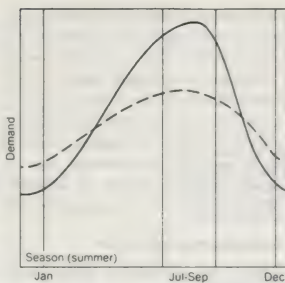
and cost of time-of-day metering and of electronic methods to control peak period usage of electricity. NARUC also asked EPRI and EEI to study the feasibility and cost of shifting various specific types of usage from peak to off-peak periods.

Conceptually, time-differentiated rates are not new ideas. They have been used in other industries for years. "Night owl" air travel, for example, is available at reduced fares. Similarly, long-run incremental cost is an echo of marginal cost-pricing concepts championed by economists for at least a hundred years. Moreover, for some time the electric utility industry has offered time-of-use rates (e.g., Georgia Power Co.'s summer-winter differentials and United Illuminating Co.'s day-night rates for customers with electric water heating).

Even before the consumer protests of the mid-1970s, time-differentiated and inverted rates had been advocated by environmentalists (1). These reformers were particularly critical of the declining block rates used throughout the electric utility industry. Then, as now, economic theorists provided the conceptual basis for alternative rate designs while ecologists garnered political support for such ideas as peak load pricing and marginal or incremental costing. In recent years, consumer reaction to inflation and recession has added a new wrinkle: low-usage, fixed, "lifeline" rates.

New trends

From the utilities' perspective, the attractiveness of doubling sales and capacity each decade lost its luster in the face of the Arab oil embargo and the financial setbacks caused by chronic inflation and the worst recession in more than three decades. Because electric utilities are both capital-intensive and regulated, growth in peak demand became a questionable variable in some investors' calculations. As market-to-book ratios tumbled, outside financing to build new plants became increasingly difficult, if not prohibitively expensive (2).



Simultaneously, consumers responded to the energy crisis in 1974 with conservation measures, and when industrial production nose-dived a year later, industrial electricity sales were hit hard. Kilowatt-hour sales flattened or declined and peak demand growth faltered, reversing an industry trend of decades.

Utility managers, in turn, cut back on construction programs, filed for rate relief in unprecedented amounts, and tightened operating expenses, especially in maintenance. Of particular relevance, they also funded rate design studies, stepped up load research, and sharpened forecasting tools.

Focus on peak load cost

NARUC was active well before its 1974 study request. Earlier that year, NARUC's executive committee had asked for a comprehensive staff report on electric utilities. The report is instructive because it cautiously summarized a shortcoming of present utility rate design:

A major fault with current rate structures is that they ignore peak load costs. Since electricity is priced on the basis of its average cost per kilowatt hour of use by each customer class, peak loads are almost certainly underpriced. We recommend that consideration be given to peak load pricing as a way to relieve some of the financial and operating stress on the system and to assure that the incidence of costs falls on the appropriate user. However, we recognize that a substantial amount of work remains to be done before we can state with certainty that peak load pricing is desirable (3).

This cautious questioning of rate design is mirrored in the joint EPRI-EEI research *Plan of Study*.

Analyzing approaches to pricing

A brief summary of a few of the topics being considered underscores the balance between conceptual optimism and practical reservations. Topic 1, for example, includes an examination of

fully allocated historic cost pricing and of long-run incremental cost pricing. Moreover, the effectiveness of summer-winter differentials, for example, and their relationship to traditional rate-making and peak load pricing are considered in this review. Work under Topic 1 includes development of cost-based rates for various defined periods (such as on-peak). These rates will be adjusted to a practical set of proposals compatible with metering capabilities and such regulatory standards as the revenue constraint, that is, the need for revenues to meet but not exceed a utility's legitimate costs.

Topic 1 is a rather ambitious review

and appraisal of both theory and practice, but it is decidedly hedged. In this regard, one public utility regulator noted, "Although an economist must take some satisfaction from the current vogue of incremental cost and peak responsibility pricing, I confess to a growing sense of alarm over the expectations that its rapidly growing hordes of advocates seem to have about its consequences" (4).

Designing peak load rates

Topic 5, on ratemaking, raises several important issues. For example, the *Plan of Study* acknowledges that the "translation of costs into rates is not a simple process, even assuming adequate measurement technology were available." Further, it explicitly addresses the complications of a revenue constraint if marginal costs are to be the basis for deriving prices. Finally, it contemplates an examination of the conceptual merits and applicability of the inverse elasticity rule, which is a theoretical basis for adjusting revenues to fall within the revenue constraint.

Also under Topic 5, the practical problems of metering small commercial and residential consumers are being explored. Recognizing that the concept of time-of-day rates may not be cost-justified for small customers on particular systems, the project examines "the problem of how to proceed with peak load pricing without adding significantly to current metering costs."

A basic premise of the study is that "the need for load management, its feasibility and its value, depend on the nature of the peaking conditions being faced" (emphasis added). The trick, obviously, is to incur modest costs and reap significant benefits.

Measuring advantages and costs

Topic 6 is an attempt to develop "a methodology by which individual utility systems can determine the quantity of electric usage that must be shifted to provide a substantial benefit from time-of-day pricing." This research effort is so crucial to resolving the NARUC-utility

dilemma that three separate contracts will be awarded on this topic alone. The emphasis on individual utility systems underlines the fact that for certain companies an elaborate metering scheme with finely honed rate schedules may not be worth the effort. Conversely—and optimistically—there may be rich lodes that should be tapped.

Peak load pricing, even if widely adopted, would certainly not roll back average electric bills to preembargo levels. The rate of increase in the level of electric prices, however, might be slowed. To specific users, the greatest concern is the impact of time-of-use pricing on their bills. This would depend, of course, on each customer's original consumption pattern and his ability to change that pattern.

Facing uncertainties

The consequences of altering the basis for electricity pricing are uncertain. Some utility executives and regulators have reservations about plunging ahead because of a lack of knowledge. Caution is warranted because no one can predict with reasonable confidence, much less with certainty, the amount of load shifting that might occur, the amount of energy conservation (if any) that might result, the effect of time-of-day pricing on future generation mix and fuel use, the consequent effect on capital and operating costs, and the subsequent changes in revenue requirements and class-by-class customer charges.

Since these matters are the core of utility finances and corporate viability, it is understandable that utility management is reluctant to dive in without checking the depth of the water below (5). Similarly, various customers or classes of customers are uneasy even before peak load pricing schemes are translated into specific rate schedules (6).

Steps toward resolution

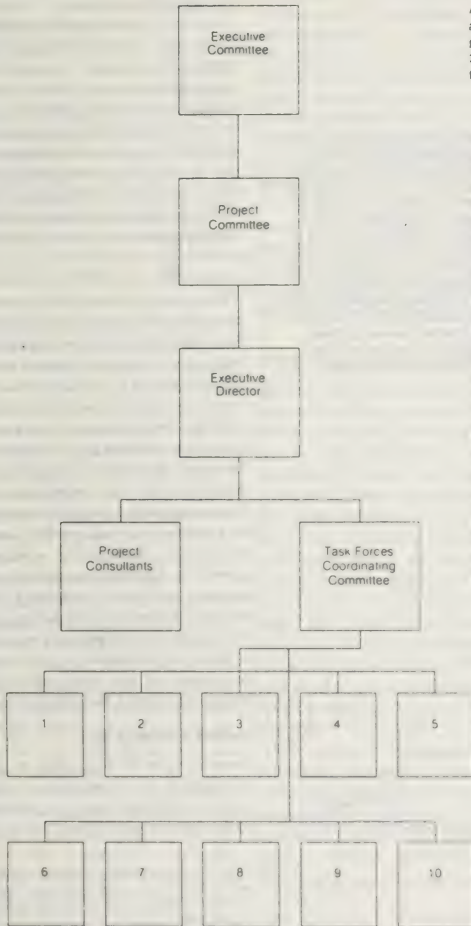
Such great uncertainty and deep anxiety have not paralyzed the regulatory community—nor, for that matter, state and federal legislators (7). For example,

EXACTLY WHAT IS UNDER STUDY?

These 10 topics define the scope of research now being done by a combination of task forces and consultants drawn from throughout the utility and regulatory fields. Complete descriptions of these efforts are set forth in the *Electric Utility Rate Design Study: Plan of Study*, September 24, 1975

1. Analysis of Various Pricing Approaches: assess traditional theory and practice, as well as such innovative designs as peak load pricing
2. Elasticity of Demand for Electricity: assess price elasticity, both on average and at peak
3. Rate Experiments for Smaller Customers: evaluate present and possible rate experiments
4. Costing for Peak Load Pricing: develop costing methodology for peak load pricing, including incremental costing
5. Ratemaking: design peak-load-pricing rate forms consistent with revenue constraints and metering technology
6. Measuring Advantages of Peak Load Pricing: develop methodology for evaluating advantages of load shifting
7. Metering: assess existing equipment, including electronics
8. Technology for Utilization: assess equipment now available and useful for peak load pricing
9. Mechanical Controls: evaluate controls on customers' premises
10. Customer Acceptance: assess customer reaction to peak load pricing and load management

**ELECTRIC UTILITY RATE DESIGN STUDY
Organization Chart**



A diversity of rate design views, interests, and approaches is ensured with more than 100 people on the 10 task forces, another 25 on the 3 supervisory committees, and 10-12 consulting firms undertaking one or more tasks.

Project Committee

William J. Jefferson (Chairman)
Executive Director of Rates,
Research, and Data Control
Consumers Power Co.

Samuel Behrends, Jr. (Vice Chairman)
Vice President, Rates and Regulation
Carolina Power & Light Co.

Herbert I. Binder
Director of Technical Services
American Public Power Assoc.

Thomas H. Burbank
Vice President
Edison Electric Institute.

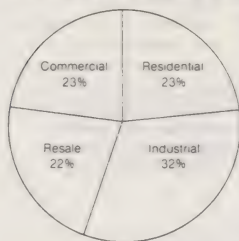
Edwell J. Endant
Coordinator, Research and Development,
National Rural Electric Cooperative Assoc.

William M. Garofan
Vice President, Rates and Valuation
Pacific Gas and Electric Co.

Alfred E. Kahn
Chairman
New York Public Service Commission

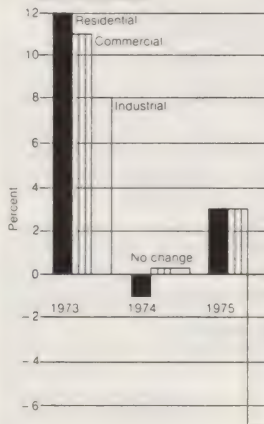
Sam H. Scherer
Co-Director, Energy and Materials
Resources for the Future, Inc.
(Consultant to EPRI)

COMPOSITION BY CUSTOMER CLASS, 1974

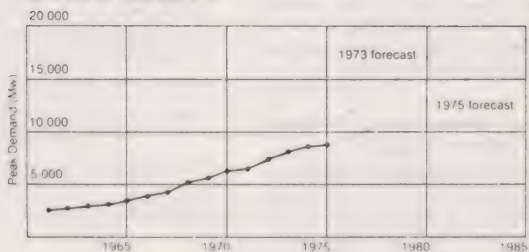


The experience of one utility illustrates how difficult it is to generalize about electricity usage—and therefore about the wisdom or efficacy of rate redesign. For this company in the southeastern U.S., three major customer classes (plus electricity for resale to other utilities) make up its 1974 total sales. The successive—and mixed—impacts of conservation and recession particularly affected industrial electricity usage from 1972 to 1975, as shown by the bar charts of residential, commercial, and industrial sales growth. In turn, this experience yielded two markedly different forecasts of the utility's anticipated peak demand growth for the next nine years.

GROWTH RATES



GROWTH IN PEAK DEMAND



in a Madison Gas & Electric Co. rate hearing before the Public Service Commission of Wisconsin, the company and the commission thrashed out rate reform issues between 1972 and 1974, including incremental costing, peak load pricing, and rate flattening (8).

Similarly, the Vermont Public Service Board, the Central Vermont Public Service Corporation, various local academicians, and the National Science Foundation formed a coalition to study residential demand on a winter peaking system. Their objective is to prepare rates and develop load management techniques for controlling this demand. Time-of-use pricing, the development of heat storage devices and, recently, the installation of ripple controls* have been melded into a modest but working experiment (9).

More recently, the drive to reduce uncertainty has taken three directions. First, state regulatory commissions have held extensive generic hearings on rate design issues (e.g., in California, New York, and North Carolina) or have examined design innovations as a part of regular rate cases (e.g., in Virginia and Colorado). Second, the Federal Energy Administration has funded numerous load management demonstration projects to evaluate price and nonprice mechanisms that might foster a balanced growth of electricity usage and peak demand. And third, all segments of the electric utility industry and the regulatory community have joined forces to conduct a searching reappraisal of rate design principles and load management techniques, specifically, the EPRI-EEL study.

Drafting a research plan

Responding to NARUC early in 1975, members of EEI's Rate Research Committee and the Load Research Committee of the Association of Edison Illuminating

*Well-insulated magnesite bricks can be heated electrically to store energy. Such loads could be centrally controlled by signals sent over the power grid. See, for example, the testimony of Professor Thomas Laaspere before the Public Service Commission of New York (Case No. 26886, August 11, 1975).

Companies drafted a research outline. EPRI reviewed the program and, with advice from an economic consulting firm (National Economic Research Associates), prepared a comprehensive plan encompassing 10 research topics. This was approved by EEI and EPRI and then by NARUC. The final *Plan of Study* was published last September.

Concurrently, a research organization was outlined in terms of members, structure, and responsibilities to carry out the *Plan of Study*. Drawn from public, cooperative, investor-owned, and regulatory segments of the utility industry, this organization was approved by NARUC, EPRI, and EEI. By October 1975, the planning and organization phases of the rate design study had been completed.

Organizing the study

In November, two critical, practical efforts began. First, 10 industry-regulatory task forces were staffed and their responsibilities outlined. Second, consulting firms were selected and their scope of work was determined. The roles of these two groups are complementary and are carefully coordinated. Not only will more than one consulting firm address each topic but the task forces will examine closely the findings of each consultant. Moreover, all research results will be appraised by a project committee of highly qualified technical experts.

By the end of 1975, the task forces had held organization meetings, drafted their own work statements, and reviewed research proposals from various economic and engineering consulting firms. Also by year-end, negotiations with several consultants had progressed to the point where work statements and costs had been established.

In brief, the consultants are performing the intensive research specified in the *Plan of Study* (e.g., determining the user of service for a particular utility and designing specific rates). Task forces are assisting and critiquing the consultants' efforts as well as doing independent work of their own (e.g., gathering and analyzing information on meters)

Study goals and phases

The program is proceeding in a series of five phases to: (1) assess the state of the art and completeness of empirical knowledge; (2) appraise conceptual tools and mechanical equipment presently available; (3) assess what still needs to be developed (e.g., data collection systems, experimentation, and hardware); (4) evaluate the costs and benefits of such development; (5) fashion compromises when costs appear to exceed benefits.

With a budget exceeding \$1 million for 1976, the level of funding is adequate for a short-run, intensive investigation of rate design issues. As the study evolves, it is possible that additional research needs will be identified, such as rate experiments, new metering technology, or new utilization equipment. These will be evaluated in terms of cost and likely benefit as follow-on research projects.

First findings: September 1976

Defining the present research under 10 topics is simplifying ease of understanding and as a practical division of labor. In fact, the topics are closely interrelated; clearly, as the *Plan of Study* points out, "everything affects everything." Combining and integrating the findings of the various consultants and task forces on all topics will be the major purpose of an overview report, which is slated for submission to NARUC in September 1976. This target date represents a compromise between completeness and timeliness and will enable NARUC to have at least a tentative appraisal of rate design problems before its 1976 annual meeting.

The overview report will present preliminary conclusions, provide summaries and assessments of the research conducted by consultants up to September. Discuss task force reports, and make a tentative assessment of the overall results, offering preliminary recommendations.

By early 1977, a final report will integrate the various findings, assess overall results, respond to comments

elicited by the overview report, and offer firm recommendations to NARUC about rate design and load management. Thus, with the active support of publicly and cooperatively owned utilities, NARUC, EPRI, and EEI will have examined a very basic question: How should electricity be priced?

References

1. John W. Wilensky and Robert G. Lohr, "Optimal Electric Utility Rate Structures: An Empirical Analysis." In *Proceedings of the National Annual Joint Rate Regulatory Conference on Public Utility Economics and the Rate-Making Process*, Iowa State University, 1974, pp. 153-180.
2. *Monopoly Power in the Electric Industry*. Prepared by Technical Advisory Committee on Finance for Federal Power Commission, December 1974.
3. J. Edward Smith, Jr., "Optimal Rate Structures and the Electric Utility Problem," 1974 Report of the Council on Economic Workings, FERC National Association of Regulatory Utility Commissioners, October 2, 1974, pp. 37-54.
4. Alfred E. Kahn, "Electric Rate Design: The Transition from Theory to Practice," in *Proceedings of the Conference on Rate Design Problems of Electric Utilities*, February 1975.
5. Affidavit of William Harris, President, Carolina Power & Light Co., in Docket No. 3-100, Sub. 21, North Carolina Utilities Commission, October 15, 1975, pp. 3-6.
6. *Electric Service Rates & Billing for Apartments*, New York: National Retail Merchants Association, 1975.
7. See Appendix 2, Reference 3 above.
8. *Testimony of Michael E. Lee & James G. Lee*, in Docket No. 3-117433, Public Service Commission of Wisconsin, 1974.
9. *Electric Rates: Theory and Management*, Princeton, New Jersey: Princeton University Press, 1974.
10. *Electric Rates: Theory and Management*, Princeton, New Jersey: Princeton University Press, 1974.

Remarks of
Martin K. Miller
to
the Subcommittee on Energy and
Power of the House Committee on
Interstate and Foreign Commerce
(Re: H.R. 12461)

There is great temptation to spend my few moments before this Subcommittee to just list, serially, the numerous unworkable and ill-conceived sections of H.R. 12461. I will not indulge in this exercise because I am confident that my colleagues and others will set forth the obvious deficiencies to which I have alluded.

To put my remarks in perspective, I have been a lawyer for 12 years, 6 years in Philadelphia and 6 years in Vermont. A great deal of my professional life has been spent in a courtroom or a hearing room. At one point, I spent 18 months in an original jurisdiction action in the U.S. Supreme Court, a lawsuit where probably over \$2 million was spent, trying to convince an agency of the Federal government to exercise its lawful authority. That lawsuit, which only was filed after five years of unsuccessful cajoling, prodding and negotiating, is a classic example of why regulatory legislation probably never will solve or begin to solve the type of nationwide problem this legislation ostensibly attempts to solve. The major deficiency in the legislation is that it makes certain unwarranted assumptions about the nationwide uniformity of the problems in generating, transmitting, and distributing electricity. I will confine my remarks to load management to illustrate what I mean.

Load management, from my perspective, is the use of an electric utility's resources (generating mix for purposes of this discussion) in the most efficient manner possible while concurrently serving its customers legitimate needs. At the outset, therefore, it is imperative to identify the current and probable future resources of a utility and the legitimate needs of its customers.

Vermont has been, is, and probably always will be a winter peaking state because of climatic conditions. Therefore, we must find some way to: (1) diminish winter use to avoid excessive and wasteful investment (in the sense it is only used part of the year like most of the nation's school buildings); or (2) increase summer use; or (3) sell excess summer capacity to summer peaking areas within economic transmission distances; or (4) develop a generating mix or a method of delivering electricity which, even though partially idle because of seasonal fluctuation in demand, delivers power on an annual basis at a lower cost than alternatives (1), (2) or (3).

Which of the four options one chooses obviously depends upon the opportunities available to him and his perspective of the legitimate needs of the customers being served. A key element in this choosing of options, however, is the period of time into the future that one uses to factor in his data. I believe, based on the permanent and important place that electricity has in our society and the magnitude of investment involved in any change in this field (from investments in basic sources of energy to delivery to the ultimate consumer), we must simultaneously look 5-10-15-20-25 years into the future. In other words, we are faced with a problem similar to that faced by an architect in charge of designing a large building. We must design a system that is capable of being built economically, that is flexible enough to accomodate some change in need, and that will be used and useful for the life of the plant. I mention all of the foregoing by way of introduction to my views of Vermont's problems and needs in electricity over the next quarter century, and potential solutions to them.

Vermont is very small. We use less electric power than a normal-size nuclear plant. Our only natural energy resource is falling water. We rely wholly on Canada for natural gas. Availability of reliable supplies of oil and coal at reasonable cost (including external costs) over the next quarter century

is questionable. The overall demand for electricity perhaps will be influenced by two factors outside our control: (1) the conversion from gas and oil to electricity in new and old homes and buildings for a variety of obvious reasons; and (2) rapid population growth (for Vermont) induced by migrations of people from the urban areas of the northeast corridor.

We anticipate and have taken several courses of action in load management to serve future demand. First, in 1974, we implemented seasonal differentials in price for over one-half of Vermont's ratepayers and flattened the rate structure. Ratepayers are beginning to understand that capacity costs are a significant portion of the cost of electricity.

Since we rely heavily on gas turbines for diurnal peaking, we have authorized optional time-of-day rates for nearly 3/4's of Vermont ratepayers. Ratepayers will have to alter their lifestyles to profit from these rates. I have serious reservations about imposing time-of-day rates because I believe the social costs, based on the daily habits of most people, will far outweigh the economic savings. I think a better and more reasonable way to solve the present problem of diurnal peaks is the encouragement of: (1) end uses which add fewer kilowatts to the peak although providing the ratepayer the same convenience and service he now has (e.g., solar heating, microwave ovens, heat pumps), or better yet (if judiciously phased in), (2) end uses which use kilowatts not only off-peak but at hours when there is generally depressed demand (e.g., storage heat). I emphasized the word "present" because the problem today stems solely from our present solution of meeting it. If a relatively less expensive method were used to solve the present daily peaking problem, prudent economics and common sense would indicate that peaking demand might permit an optimal economic generating mix. In this regard, Vermont may be able to use some of its falling water to meet some peaks.

I am very concerned about the notion that a high load factor is necessarily the best of all worlds. Such a load factor presumably means mostly base load plants with some intermediate plants. To provide reasonable reliability for such a system will be enormously expensive. Also, the problems associated with building base load plants are, unfortunately, being argued about in such emotional tones that I believe some change of heart, or technology, or law will be necessary if they are to be sited and built at a reasonable cost.

In addition to attempting to manage loads through rates and new end uses, we in Vermont are attempting to manage loads through central control systems. This area is the most exciting and promising to me as a regulator because it provides system protection currently unavailable. Secondly, it will permit optimization of use of both utility investment and ratepayer investment if the utility system phases in its controls with corresponding end-use equipment which is compatible with these controls. The key here is refining some of the technology which took us to the moon and back. A casual review of recent technological advances leads me to believe that in a very few years solar energy will become reasonably conventional and that all buildings will be wired (or may be compelled to be wired) to be compatible with central control systems. I do not ever visualize a light going out or a stove going off because of these systems but I do visualize the constant interchange of information in the system to permit the best allocation of resources.

A system providing the flexibility just outlined will permit rational choices in solving other equally important resource allocation problems (e.g.'s, (1) should we encourage conversion from oil to electricity as a source of heat to make available more petroleum for transportation; (2) should we promote electric transportation to make more petroleum available for space heating; and (3) should we put more effort into finding alternatives for electricity to be used for transportation or space heating or both. The basic assumption I have

made is that the availability of current energy resources is finite, at least in terms of reasonable cost.

I have outlined my views to emphasize that load management techniques are kaleidoscopic: use of one technique or taking one course of action generally evolves from a complex web of choices, and inevitably impacts on and limits many other available choices. Because electricity is an integral part of our society, one must be sensitive to the ripples generated by changes in this field. I believe H.R. 12461 fails to give ample recognition to the kaleidoscopic and complex nature of the problems. Some of the findings in Section 101 and the assumption that there should be classes of consumers are two examples of this failure.

The threshold question for me in approaching this or any other legislation is what will it do for me, my constituents, and for the nation. It will certainly cost me, my constituents and the nation a lot of time and money to implement. It offers no reasonable incentive to do anything that I, my constituents and the nation are not now doing. The irony is that this legislation codifies under the rubric "Load Management" many of the techniques that I and my counterparts in other states are analyzing and then goes on to suffocate our attempts at reasonable implementation by mandating an unworkable, ill-conceived procedural morass to govern that implementation.

I must reiterate my disagreement with the major assumption of the bill - viz, that the best of all possible worlds is the reduction of peak demand. That it might and probably will be necessary to build more base load plants which may be unacceptable to society, that we should forego an attempt to develop new technology to meet peak demands, the utilities and their ratepayers should be compelled to bear the cost of some control or metering equipment because a federal court after protracted litigation finds its long-term benefits exceeds its long-term costs, illustrates the short-sightedness of this assumption.

I suggest to you that the solution to our complex energy-electricity problems may be different in coal-rich Utah than in sun-rich Arizona, although they are geographically contiguous. The same is true of rural Vermont, New Hampshire and Maine compared to more urban Massachusetts, Connecticut and Rhode Island. While these differences can be taken into account through regional power pools and reliability councils, Section 204 does not seem to take these factors into account except for the vague criteria of long-run benefits (social? economic? environmental?, for whom?) exceeding long-term costs.

Defining lower kilowatt demand as cost-effective will not give us the flexibility needed to deal with the very serious problem in New England of over-dependence on unreliable, costly imported fossil fuels. At a time in history when coherence in energy policy is being clamored for, a key definition in this bill seems to ignore the problem.

In Vermont, beginning in 1972, without prodding from the Federal government, we instituted what I believe is a reasonable and progressive load management program. It has involved the academic, governmental and utility communities in a professional dialogue. It received federal financial support before projects of this type were in the vogue as they are today. It has included everything set forth in Section 209(b)(1).

If my remarks have seemed a bit caustic, it is because I despair that I and my counterparts around the country will be stifled in our efforts by the bureaucratic approach of H.R. 12461. I would note that the businesses most directly regulated by the Federal government are not exactly models of efficiency. I think what has happened to the postal service should provide ample evidence about the ability of the Federal government to run a complex business. I urge you to take heed of Mencken's admonition that all complex problems have simple solutions which are always wrong. I respectfully request that you resist the temptation to solve

my problems when I have not asked nor am aware that I need your help.

Thank you.

Martin K. Miller
Chairman
Vermont Public Service Board
120 State Street
Montpelier, Vermont, 05602

The first part of the paper discusses the importance of the study and the objectives of the research. It also mentions the scope of the study and the limitations. The second part of the paper discusses the methodology used in the study. It mentions the data sources and the statistical methods used. The third part of the paper discusses the results of the study. It mentions the findings and the conclusions. The fourth part of the paper discusses the implications of the study. It mentions the policy implications and the future research. The fifth part of the paper discusses the conclusion. It mentions the main findings and the recommendations.

The study was conducted in a systematic and rigorous manner. The data was collected from a representative sample of the population. The statistical methods used were appropriate for the data and the research objectives. The results of the study are presented in a clear and concise manner. The findings are discussed in detail and the implications are highlighted. The study contributes to the existing knowledge in the field and provides valuable insights for policy makers and researchers. The study also identifies the limitations and suggests areas for future research. The study is a valuable contribution to the field and provides a solid foundation for further research.

The study was conducted in a systematic and rigorous manner. The data was collected from a representative sample of the population. The statistical methods used were appropriate for the data and the research objectives. The results of the study are presented in a clear and concise manner. The findings are discussed in detail and the implications are highlighted. The study contributes to the existing knowledge in the field and provides valuable insights for policy makers and researchers. The study also identifies the limitations and suggests areas for future research. The study is a valuable contribution to the field and provides a solid foundation for further research.

Plan now to attend ...
 FIFTH WORLD CONFERENCE OF RETAILERS, STOCKHOLM
 and TOUR OF USSR MAY 6 - 20, 1976
 Ask us about it!

National Retail Merchants Association



100 West 31st Street
 New York, N.Y. 10001
 212/244-8780

STATEMENT
 OF
 CHARLES W. KING
 BEFORE THE
 SUBCOMMITTEE ON ENERGY AND POWER
 COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE
 U.S. HOUSE OF REPRESENTATIVES

MARCH 31, 1976

My name is Charles W. King. I am Vice President of the economic consulting firm of Snavelly, King & Tucker, and I am appearing today on behalf of the National Retail Merchants Association (NRMA). I hold Bachelor's and Master's Degrees in economics, and for the past twelve years I have been acting as a consultant to government agencies and private organizations which are either regulators or major users of the transportation and utilities systems. During the past year, I have worked actively on behalf of the NRMA in analyzing various national problems relating to the electric utility industry. As a bi-product of this work, I have presented testimony on behalf of state retail organizations in New York, North Carolina, and Virginia in connection with the "generic" inquiries into electric rate design by the respective state commissions.

By way of background, NRMA is a non-profit national trade association composed of approximately 3,000 corporate members who operate some 30,000 general merchandise retail stores with an aggregate sales volume of some \$85 billion annually. Two-thirds of its members are small businesses with sales under \$1 million annually. Its members range in size from large national chains to small specialty shops, and they employ two million workers across the nation.

EXECUTIVE OFFICERS

Chairman of the Board
 THOMAS M. MACHOCE
 President and Chief Executive Officer
 Allied Stores Corporation
 New York, New York

First Vice Chairman of the Board
 MERVIN G. MORRIS
 Chairman of the Board
 Marvin's
 Hayward, California

Second Vice Chairman of the Board
 DONALD V. SEIBERT
 Chairman and Chief Executive Officer
 J. C. Penney Company, Inc.
 New York, New York

President
 JAMES R. WILLIAMS
 NRMA
 100 West 31st Street
 New York, New York 10001

Washington, D.C. Office: 1000 Connecticut Avenue, N.W. 20036

I should like to begin my statement by identifying what I will not be talking about. As I have indicated, my training is in economics, not engineering. Therefore, I do not consider myself qualified to comment on the technical aspects of various devices which can be used to control and/or monitor the flow of electricity to individual customers or groups of customers. The principal load management mechanism that I will discuss is the pricing structure. Since I am neither a lawyer nor a regulator I will not comment on the respective roles of the state and federal governments in public utility rate regulation. For this reason, my statement will not address the question of who should write legislation, nor even what that legislation, if written at all, should specifically contain.

Rather, I would like to share with you our understanding—both NRMA and myself—of the nature of the utilities' load management problems, the appropriate resolutions of these problems, and the difficulties which lie in the way of achieving these resolutions. I would hope that this understanding might contribute usefully to your deliberations in framing the appropriate legislation.

Need for Load Management

There is little need to elaborate on the rapid increase in electric utility rates in the last few years. Since 1970, the nationwide average electric bill per customer increased 92 percent, and in many parts of the country considerably more. Several conventional explanations are offered for this increase. Most commonly cited is the increase in the cost of fuel, and indeed fuel costs have been a major propellant of energy inflation. Less often mentioned is the increase in construction costs, particularly as it applied to nuclear plant. This, too, has been a major contributor. But there is a third explanation for the increase in electric rates which rarely captures much public attention. That is the general decline in the productivity of the nation's electric generating plant. Between 1967 and 1974, the proportion of the nation's

generating capacity which was actually used throughout the year declined from 65.3 percent to 61.2 percent.¹ Because most generation costs are fixed, that is, they are incurred whether the plant operates or not, this "load factor" decline has contributed in a very significant way to the increase in electricity rates. Last year I participated in a \$100 million rate increase proceeding involving the Virginia Electric Power Company (VEPCO). In that case, the cost effect of the four percentage point national decline in load factor amounted to about half VEPCO's rate increase, or \$50 million. Indeed, if VEPCO had been able to improve its 1970 load factor by four percentage points, it would probably have required no rate increase whatsoever.

Most utilities treat load factor as an "Act of God" over which they have entirely no control. They believe that demand is imposed by customer, and it is the utility's job to respond. In my opinion, this is an attitude which requires immediate and abrupt change.

The Causes of Declining Load Factor

A diagnosis of the problem of declining load factors must begin by identifying the components of the electric power market which appear to be causing the utilities' load factors to fall. It should then determine why has that decline occurred, and finally what possible actions the utilities might take to reverse it.

Because each utility classifies the customers in a different way, it is almost impossible to develop consistent national load factor statistics by class of customer. However, the following load factor data for two individual utilities suggest a general pattern:

¹Edison Electric Institute.

Virginia Electric Power Company (1974)¹

o Residential	43%
o Small general service	48%
o Large general service	81%

Long Island Lighting Company (1974)

o Residential	40%
o Small commercial	49%
o Large commercial	55%
o Transmission voltage	70%

While load factors will vary from utility to utility, there appears to be a fairly consistent pattern of low load factor usage in the residential class, higher in the commercial class, and highest of all among industrial users. Intuitively, this pattern makes sense. Residential users have varying needs for electricity throughout the day and among the days of the week. Commercial users, such as retailers, operate on fixed schedules, usually 8 to 12 hours a day. During those periods, their electricity usage is fairly constant, reflecting fixed requirements for lighting, air conditioning, and appliance usage (e.g., elevators, escalators). Finally, many industrial users are 24-hour processors, and they would develop the best load factors of all.

Until recently, there were virtually no data available on the load characteristics of various categories of customers within the residential class. However, a recent study of two electric companies in the south-east has broken down the monthly consumption of a sample of residential customers by income range. These data, which are reproduced on the

¹Virginia SCC Case No. 19426, cost allocation by service classifications, Charles T. Main, Inc.

next page, suggest that aggregate consumption of electricity tends to increase as aggregate income increases. More relevant, however, is that the load factor declines as both consumption and income increase.

The explanation for these patterns is suggested by the appliance data which accompanied these tabulations:¹

Electric Appliance Saturation by Income Level, 1973

	-----Income Range \$-----					
	<u>Under</u> <u>5,000</u>	<u>5,000-</u> <u>9,999</u>	<u>10,000-</u> <u>14,999</u>	<u>15,000-</u> <u>24,999</u>	<u>25,000</u> <u>& over</u>	<u>Total</u> <u>Company*</u>
Water heating	39.0%	44.6%	36.7%	31.5%	24.1%	37.6%
Space heating	6.9	15.1	17.1	15.3	15.0	13.8
Air conditioning						
Central	8.4	19.9	28.3	47.7	73.7	27.9
Window	36.4	52.7	56.1	38.5	19.7	45.1

* Based on customers who responded to income question.

This tabulation indicates that as income increases, the "saturation" of electric hot water heating, that is, the percentage of houses heating water by electricity, declines. This decline would partly explain the poor load factors of the wealthier customers because hot water heaters consume electricity at a fairly even rate throughout the year. But the most startling figures on the table are those relating to air conditioning, particularly central air conditioning, which increases from 8.4 percent for very poor customers up to 73.7 percent for wealthy customers.

As the accompanying tabulation indicates, the two study utilities peaked in August. This summer peak, which is characteristic of the large majority of the nation's utilities, suggests that air conditioning

¹"Energy Marketing" Electric World, March 15, 1976, page 141.

EXHIBIT 1

PERCENT MONTHLY ENERGY USE BY INCOME LEVEL, 1973

-----Income Range, \$-----						
Monthly Use, kwhr	Under 5,000	5,000- 9,999	10,000- 14,999	15,000- 24,999	25,000- & over	Total Company*
0-100	1.2%	0.6%	0.2%	0.3%	0.1%	2.4%
101-300	5.5	2.7	1.3	0.4	0.2	10.1
301-600	8.3	6.5	4.3	1.8	0.4	21.3
601-1,000	5.5	8.5	8.8	4.5	0.7	28.0
over 1,000	2.5	8.6	11.6	10.1	5.4	38.2
Total	23.0%	26.9%	26.2%	17.1%	6.8%	100.0%

Average monthly kwhr per customer

January	526	807	1,110	1,556	2,206	1,045
February	476	779	1,046	1,484	1,881	975
March	425	674	916	1,303	1,832	867
April	396	592	807	1,156	1,609	769
May	379	577	774	1,085	1,622	741
June	428	681	955	1,453	2,033	919
July	552	888	1,299	1,973	3,071	1,253
August	588	932	1,391	2,078	3,286	1,330
September	587	947	1,386	2,069	3,166	1,323
October	447	682	940	1,474	2,479	954
November	420	566	757	1,124	1,618	750
December	463	687	939	1,361	1,914	901
Annual	484	736	1,032	1,536	2,168	990

Ratio Average Monthly Demand/Peak Monthly Demand

.823	.777	.742	.739	.660	.744
------	------	------	------	------	------

*

Based on customers who responded to income question

Energy Marketing: Electrical World, March 15, 1976

may be the primary source of peak demand. Whether it is the cause of the increase in that peak demand relative to the rest of the year's consumption (i.e., the decline in load factor) is a function of its rate of growth.

The growth in residential central air conditioning has been phenomenal. In 1965 about three million homes were centrally air conditioned. By 1969 that number had doubled. By 1974 it appears to have doubled yet again. Total residential central air conditioning units shipped the last three years alone have come to almost 5 million units.¹ Thus, the decline in utility load factor appears to have tracked with a virtual explosion in home air conditioning.

Unfortunately, the dramatic increase in utility rates during the last three years has probably exaggerated the adverse load factor effects of the air conditioning peak. This is because of what is known as "needle peaking." Virtually every residential user in the country is billed on the basis of kilowatt-hours consumed, regardless of the time of day or the day of the week that consumption is made. When the kilowatt-hour rate increases, the customer reacts by cutting back on his demand for electricity when it is most convenient and comfortable to do so. The most reasonable reaction is to increase the air conditioner setting from, say, 72 degrees to 78 or maybe 80 degrees. This means that the air conditioner will not run on the relatively cool days of the summer, but on those few days when the temperature soars into the 90's, the air conditioner will run full time and consume as much electricity as it ever did prior to the increase in energy charges. The customer realizes a saving (albeit, a temporary one) in the form of lower kilowatt-hour charges, but the demand on the utility by the aggregate of all customers running their air conditioners on the hottest day of the year will be just as high as ever. The utility will therefore require just as much electric generating capacity. Thus, although

¹ Air Conditioning—Heating and Refrigeration News, Business News Publishing Co.

the higher rates caused kilowatt-hours to decline, the effect is to reduce revenue but create no appreciable savings in electric generating costs.

A number of utilities have attempted to adjust to this effect by imposing a "summer differential," that is, a higher kilowatt-hour charge in the summertime. This higher charge probably serves only to aggravate the needle-peaking characteristics of the air conditioning market, thus further worsening the utilities' load factors.

Need for Peakload Pricing

It is quite clear that the central load management problem relates to the "signals" that the air conditioned residential customer is getting from the utility. He is being signaled to reduce total consumption measured in kilowatt-hours, but that saves the utility virtually nothing in generating costs. What is needed is a signal to the customer to reduce his consumption at the peak hour. In other words, a system of peakload pricing.

Peakload pricing is a procedure whereby either all or a part of a large portion of the utility's "demand" costs, that is, the generation and transmission costs which are required to serve the peak demand during the year, are collected in rates applicable only to the usage of electricity which occurs at the utility's system coincident peak. The concept acknowledges that the coincident peak demand determines the utility's total generating capacity, and most of its transmission and distribution requirements as well. It is, therefore, the usage at the utility's annual peak hours which creates the costs associated with those functions.

Peakload pricing can come in a number of forms. The two principal forms that have been proposed have been as a demand charge applicable to the customer's maximum kilowatt requirement during the utility's

peak period and alternatively as a time-of-day differential applicable to the customer's kilowatt-hour consumption during those periods when the company's peak is most likely to occur.

The Problem of the Meter

The principal stumbling block to peakload pricing is the problem of the meter. Most single family residential meters only record the total number of kilowatt-hours the family has used during a given month. They do not record when these kilowatt-hours were consumed, nor even the maximum number of kilowatts the household required at any given time. Small commercial and industrial customers (including most small retail outlets) have a somewhat more sophisticated meter, one which records both the total number of kilowatt-hours and the maximum coincident kilowatts which the customer demands at any one time (usually a half-hour period) during the month. Such a meter still does not identify the time of day or day of the week when either the kilowatt-hours or the maximum kilowatt demand occurred. Only a fairly elaborate meter, one which contains a clock with a time switch, plus two watt-hour registers, will gather the necessary usage data to permit a peak-load pricing scheme to be implemented. The cost of such a meter has been variously estimated as between \$150 and \$250, as against \$20 for a conventional residential watt-hour meter and \$85 for a small commercial demand meter. Understandably, utilities with hundreds of thousands of customers recoil at the prospect of remetering every home and business that they serve.

It is possible, and I believe quite useful, to quantify the trade-offs between load factor improvement and remetering cost. To illustrate, I will use cost data which the Virginia Electric Power Company recently introduced in a peakload pricing inquiry held before the Virginia State Corporation Commission. In that proceeding, VEPCO's consultants estimated that the demand-related cost per kilowatt of seasonal mean peak demand for the residential market is \$68. VEPCO also developed

estimates of the "annual revenue required" to cover the installation, operation, and maintenance costs of various types of meters. The most sophisticated of the meters presently available is a magnetic tape meter with a carryover device in the event of outages. Such a meter would be suitable for any possible time-of-day rate schedule. The annual cost of this meter, however, is approximately \$160. To justify its installation, the peakload pricing which it would permit would have to stimulate a reduction in the average coincident peak demand equal to approximately 2-1/3 kilowatts. Since the average coincident residential peak is only 2.8 kilowatts (1974), it is very doubtful that such a meter could be justified except for very large residential customers.

A more suitable meter which would still serve the requirement of peakload pricing is a demand meter, plus a time clock carryover. Such a meter would permit the identification of both peak demand and kilowatt-hour consumption during a pre-set schedule of peak/off-peak hours. The carryover feature would assure that outages would not require resetting the meter and thereby destroy the continuity of the time-of-day billing process. This meter has an annual cost of approximately \$50, which is .74 of the cost of the kilowatt. Thus, the meter is justified if, as a result of time-of-day pricing, the coincident peak of the average residential customer is reduced by 3/4 of a kilowatt. This amount represents a reduction in peak demand of about 20 percent, probably more than can be expected under a very severe peak/off-peak price differential.

What, then, for peakload pricing? Does the cost of remetering render it infeasible for the residential market?

I believe not. Rather, I would argue that a time clock is not universally required to achieve the load management benefits of peakload pricing. It seems intuitively obvious that most air conditioned customers experience a summer peak which, if not coincident with the

utility's peak, is at least in the approximate time span during which the utility approaches that peak. Thus, a simple demand meter without a time clock would probably record the same summertime peak demand for air conditioned customers as one which is designed to capture the demand only during the peak period. For this reason, I believe that a "seasonal ratchet" demand charge similar to that which is imposed on many small commercial customers with greater than 50 kilowatts of demand would convey the same pricing "signal" to the typical air conditioned residential user as would a time-of-day rate schedule. The "seasonal ratchet" means that the demand component of the customer's bill throughout the year is based on his highest summertime use.

VEPCO estimated that a demand and kilowatt-hour meter costs only \$31 annually. For VEPCO, this meter would require a peak shedding of .46 kilowatts to justify its installation, an amount equal to less than 20 percent of the average residential coincident demand at the company's summer peak. In fact, this \$31 is overstated because the new demand meter would replace an old kilowatt-hour meter which has an annual cost of \$9. The true added cost of remetering is more like \$22. This cost equals less than a third of a kilowatt, a seemingly reasonable amount of consumption to be repressed through a seasonal demand charge if applied to air conditioned customers.

In summary, I believe that if a summertime demand charge were imposed on all centrally air conditioned customers the resultant load shedding, modest though it might be by each individual customer, would in aggregate result in a very significant improvement in the utility industry's load factor.

I anticipate two lines of argument in rebuttal to the foregoing suggestions. The first is an expression of a general cynicism as to the responsiveness of residential customers to pricing incentives. This cynicism is refuted by the record. Again, using the example of VEPCO, the experience of the past three years reveals that customers

are very responsive to changes in price. For years, VEPCO's aggregate demand increased at an annual rate of 9 to 10 percent. Then, beginning in 1973, rates increased by over 84 percent in two years. The result was an absolute decline in both kilowatt-hour consumption and kilowatt demand between 1973 and 1974. Nor is this response just a passing phenomenon. Since late 1972, VEPCO has revised its growth rate forecast downward four times, from 10.8 percent annually in 1972 to 6.5 percent in February of 1975. Certainly, this record of high sensitivity of customers to price changes supports the conclusion that a system of peakload prices in the form of demand charges for the residential sector would achieve a very significant response indeed.

This response, however, will require an aggressive educational program by the utilities. Not only will the rate structure have to be explained to the customers paying it, but the actions which the householder can take to reduce his bill must be explained as well. Most important will be the message that savings do not come so much from reducing the total amount of electricity consumed throughout the day, but from minimizing the use of a number of appliances at the same time. To reduce his bill, the householder should turn off his air conditioner when he runs his dishwasher or clotheswasher. He should not run his clotheswasher or dishwasher at the same time he is cooking. Possibly, he should install a switch on his electric hot water heater (if he has one) which will permit him to turn it off when other appliances are in operation.

The second criticism of the proposal which I have outlined is, I believe, more valid. It relates to the equity of imposing a demand charge which reflects the peak period generation, transmission, and distribution costs of the company on customers who may in fact peak at times other than the company's peak period. Individual customers may experience peaks late at night or in the morning hours. These differences may stem from the particular patterns of their consumption

(e.g., farmers) or, more importantly, from their willingness to adopt new patterns of consumption which would shift their demands to an off-peak period. Such customers should have the option of paying an additional \$2 a month (the difference in metering cost) to be equipped with a time clock, demand meter which will record maximum demand only during the utility's coincident peak hours. Again, the success of this program would be heavily contingent upon an active informational program by the utility.

The Outlook: A "Copout"

What is the outlook for this proposal? I am sorry to report that it is not very good.

It is not for lack of attention, or for that matter, lack of popularity for peakload pricing. In fact, peakload pricing is quite in fashion, but the form that it takes in reality is, quite frankly, a "copout." This "copout" is to apply peakload pricing just to those customers who are already equipped with time-of-day meters or whose electricity consumption is sufficiently large to "justify" the application of peakload pricing.

A good case in point is a recent rate proposal put forth by the Long Island Lighting Company (Lilco). As part of its load management research program, the company recently purchased about 200 magnetic tape recorder demand meters. At the prompting of the New York Public Service Commission, Lilco published a peakload pricing proposal which involved the installation of the new meters on the 160 largest commercial and industrial customers not covered by contract rates. Within this select group of 160 customers were 44 retail establishments. Although the aggregate revenue derived from the group of 160 customers was supposed to have remained the same, the rates for the 44 retailers would have typically increased between 30 percent more than the 160 customers overall and 60 percent more than the remainder of Lilco's selected users.

The reason, of course, is that retailers have no choice but to remain open during Lilco's peak hours, 10:00 a.m. to 10:00 p.m. on weekdays and Saturdays in the summer. Unlike many industrial enterprises, retailers cannot reschedule operations from the day to the night or the early morning hours to take advantage of the very low "off-peak" rates available during those times.

Not surprising, this selective application of peakload pricing just to large commercial and industrial customers has been resisted strongly by the retail industry. The resistance is not based on the purely self-serving grounds that it increases retailers' electric bills (although that certainly provides some motivation), but rather on the grounds that it is inconsistent with the load management objectives of peakload pricing.

There are three reasons why such a selectively imposed time-of-day rate schedule is inappropriate. The first is that the commercial and industrial sectors upon whom such rates would apply are the least elastic portions of the electricity market, that is, their use of electricity is least sensitive to variations in price. This fact is demonstrated by the Edison Electric Institute's national electricity consumption data for the last several years.¹ Prior to 1970 when electric rates were stable, residential demand was growing at a substantially faster rate than commercial demand. After 1970, electric rates began to escalate. Between 1970 and 1974, the average electric bill of commercial customers across the country increased 65 percent. During those same years the average usage of electricity per commercial customer increased 17 percent. Meanwhile, the average residential bill increased by a slightly lesser amount, 50 percent, yet the growth of residential consumption dropped back to only 12 percent, substantially less than the commercial sector.

¹ Edison Electric Institute, Statistical Year Book of the Electric Utility Industry for 1973

The relative inelasticity of the commercial group was again demonstrated in the years 1973 and 1974, when the energy crisis reached its peak. In one year, residential electric rates increased by 16 percent, while commercial rates jumped 21 percent. Yet the response of the two markets was about the same, a contraction in kwh demand of 2.1 percent in both cases.

The past elasticity of demand of the commercial sector, although lower than that of the residential market, was probably much greater than it will be in the future. Last summer the New York State Council of Retail Merchants sponsored an in-depth survey of some 275 retailers in New York State, a state that has experienced very dramatic increases in its energy costs. The survey revealed that most retailers had indeed taken steps to curtail their use of electricity in response to the increase in its cost and to the urging of federal and state authorities to conserve fuel. But fully half of the respondents believed that they had done about as much as they could do to reduce consumption and that they would simply have to bear the full brunt of any further increase in electricity costs. Their stores are open for a fixed number of hours each day; they must have a minimum of lighting for customers to see the merchandise they are buying; and they must have adequate heating and air conditioning to assure a minimum of comfort to their customers and employees. Thus, although the retail industry may have shown some elasticity of demand retrospectively, it cannot be expected to show anything like the same responsiveness prospectively.

The foregoing comments apply only to total kilowatt-hour consumption. Unfortunately, the survey was less complete in measuring peak kilowatt demand, against which peakload pricing is directed. On the basis of partial data, however, the indication was that retailer's electricity consumption is probably even less elastic with respect to kilowatt demand. The majority of respondents indicated that they had little or no ability to defer their peak demand to some other time of

day. Most felt that they would be absolutely helpless to achieve any kind of "load shedding" such as peakload pricing is designed to accomplish.

It would appear, therefore, that the application of peakload pricing solely to large commercial and industrial customers is likely to be ineffectual in improving the load factor of the utility. This kind of peakload pricing would apply to the least sensitive, least elastic sector of the electricity market and would leave unaffected the vast residential market where the real opportunities for load shedding exist.

The second reason why this kind of selective application of peakload pricing is inconsistent with the objective of improving the load factor of the utility is the simple fact that peakload pricing would not apply to the portions of the market which have the high, unpredictable peakloads. As demonstrated earlier, residential load factors tend to be substantially lower than those for the commercial and industrial sectors.

Not only is the load factor of the residential class lower, but its flexibility to adjust to peakload pricing incentives is much greater. Most residential users do not have a fixed time during which they must use their appliances. Many of their appliance operations, such as dishwashers, clotheswashers, hot water heaters, and even ranges, could be deferred to an off-peak time of day if there were sufficient economic incentive to do so. Thus, peakload pricing applied only to small and large general service ratepayers (large commercial and industrial customers) would not attack the load factor problem where it exists and where it can be solved, namely, in the residential market. As a consequence, it is almost certain not to be very effective in resolving it.

The final reason why peakload pricing concentrated on large commercial and industrial customers is unlikely to have any significant load factor impact is that many of these customers already have what

is, in effect, a peakload pricing scheme recently imposed on them. A number of utilities have adopted a "seasonal demand ratchet," in which the monthly demand charge is based on the customer's peak demand during the peak months of the utility. For customers such as retail stores whose peak demand usually coincides with the peak periods of the utility, this "seasonal demand ratchet" imposes much the same pricing "signal" as would peakload rates. When large consumers are under such a rate, they are doubtful whether the imposition of peakload pricing would significantly increase the incentive to reduce peakloads. Obviously, unless there is some price-elastic reduction in peakloads, peakload pricing will have failed to provide any benefit to the utility by way of improved load factors.

Proposals to limit peakload pricing to large commercial and industrial customers are also inconsistent with the other objective served by the concept, which is to allocate costs more directly to those customers or customer classes which create them. This is because they are discriminatory. Although the commercial and industrial sectors have better load factors than the residential class, it is they—and only they—who would be penalized or rewarded according to their load factor characteristics. Retailers have no valid reason to object to cost-oriented rates which reflect their particular usage characteristics, provided all other customers who have the same usage characteristics also pay on the same basis.

Again, the Long Island Light Company's proposal furnishes a good illustration. Under that proposal, retailers suffer an increase in rates because their load factors are lower than the average of the 160 time-of-day metered customers. Yet this group of 160 has an aggregate load factor substantially higher than the company's overall average. If everyone served by the company were put on time-of-day metering, the retailers' bills would probably go down because the retailers' load factor, although lower than the group of 160, may still be higher than the company's average.

Conclusions

1. One of the causes of increased electric costs during the last few years has been the deterioration in the productivity of the nation's electric generating plant. This deterioration has been manifest in a declining load factor.
2. The lowest load factors apparently occur in the higher income segments of the residential market which are most heavily air conditioned.
3. The decline in the load factors of the electric utilities has coincided with a quadrupling of the number of homes which are centrally air conditioned.
4. The present residential rate structure offers no incentive to customers to consume electricity in a manner which will improve the load factors of the utilities.
5. It is not necessary to install expensive time-of-day meters in order to provide incentives to residential customers to improve their load factors. A conventional demand meter with a "seasonal demand ratchet" can accomplish the same effect.
6. Residential customers who have heavy off-peak demands should be given the option of time-of-day rates provided they cover the added cost of the remetering required.
7. The expedient of imposing time-of-day peakload rates just on large commercial and industrial customers is both ineffectual and discriminatory. It is ineffectual because these large customers have the least elastic demand for electricity, they have the highest load factors, and in many cases they are already billed according to seasonal demand readings. It is discriminatory because it selects only one small group of customers to be recipients of peakload pricing.

COMMENTS ON LOAD MANAGEMENT BY THOMAS
LAASPERE BEFORE THE SUBCOMMITTEE ON ENERGY
AND POWER OF THE COMMITTEE ON INTERSTATE
AND FOREIGN COMMERCE (Re: H. R. 12461)

March 31, 1976

Mr. Chairman and Members:

I am delighted to have the opportunity of offering to you some remarks on load management and on the metering of electricity.

My name is Thomas Laaspere. I am a Professor of Engineering at the Thayer School of Engineering, Dartmouth College, Hanover, N. H. I am a participant in a National Science Foundation supported study of various aspects of electric load management. The study includes an evaluation of the presently available metering and load management technology, as well as the actual determination of the response of customers to a special time- and demand- dependent electric rate.

I would first like to point out that my own definition of load management is somewhat broader than that used in H.R. 12461. Whereas H.R. 12461 defines load management as a means "to reduce maximum kilowatt demand on the electric utility", I have defined it as "the employment of direct and/or indirect techniques for the achievement of optimum variation of demand vs. time".

Comments on Load Management
T. Laaspere

March 31, 1976

As a first step in considering load management, my definition requires an agreement on what constitutes "optimum variation of demand vs. time". That is, the goals of load management are determined by the technical, economic, and social objectives established for the electric utilities.

If the emphasis of the utilities, and thus of load management, should be on minimizing the net cost of generating and distributing electrical energy, it may indeed turn out that the utilities should try to make the daily and seasonal load factor approach unity after a transition period in which the peaker- and the intermediate-load generating capacity becomes obsolete, worn out, or too costly to operate. The attainment of this objective would almost certainly require a complete redesign of the present kWh-based residential rate structure, including the introduction of penalties for the use of electricity during the present peak periods, as well as the adoption of various load management hardware techniques. Implicit in this objective would be increased reliance on base-load (such as nuclear) generating techniques.

I personally feel that a more desirable objective would be to accept the demand curve which would result from meeting the customers' demand under the constraint that each customer pay the full cost of his use of electricity. Under this policy, the diurnal load curve would probably continue to display appreciable demand variations, although they would not be as pronounced as they are under the present residential rates. In this approach, electric

Comments on Load Management
T. Laaspere

March 31, 1976

rates would have to be introduced which reflect the fact that it costs the utility of the order of several dollars per kilowatt per month to be ready to serve the customer during the peak hours of the day, and that the cost of a kWh varies in the course of the day, week, and year. Such rates would not only be fair, they would also provide the customers with clear signals which would undoubtedly induce many of them to shift their use of electricity from the relatively high-cost hours of peak demand to the low-cost hours of low demand, or from weekdays to the weekend. As a result, the load curve would be flattened, the efficiency of generating and distributing electricity would be increased, and almost everybody would be better off.

Whatever the agreement concerning the goals of load management, a survey of the situation leads to the conclusion that the hardware now exists for the implementation of any conceivable residential rate structure and for the adoption of a wide range of other load management policies. However, one finds that the cost of metering tends to increase with the complexity of the rate to be enforced. For example, the basic single-phase watthour meter now used in U. S. households to measure the kilowatthour consumption costs only about \$20 per meter. On the other extreme, equipment for continuously monitoring and recording the customer's use of electricity costs more than \$400 per customer. To implement a kilowatthour-related on-peak, off-peak rate requires, as a minimum, a two-register meter which incorporates a clock-actuated switch. This meter costs about \$77. A sample of the available hardware options for metering various residential rates is given in Table I.

Comments on Load Management
T. Laaspere

March 31, 1976

A key question to be considered is what control technique to use for meter register switching in the implementation of time-dependent rates. It is in this area that the hardware aspects of metering and load management become interrelated. This is because a system such as ripple control can be used not only for remote control of meter register switching, but also for controlling the on-off times of water heaters, electric storage space heaters, etc. Of the presently available systems, those utilizing time switches are the least expensive. On the other hand, these systems are also inflexible since any change in the switching schedule, or a power outage of an extended duration, requires the manual resetting of the timers. The present Motorola radio control system may be attractive for certain load management purposes, such as for the remote control of the water heating load, but its suitability for the remote control of metering apparatus is questionable. At present, only the European one-way ripple control systems, in which coded audio-frequency signals are sent out over the power grid, appear to offer proven flexibility and reliability to extend control to complex load types (multi-register meters, electric water heaters, electric storage space heaters, traffic lights, alarm signals, etc.). The U.S.-manufactured two-way ripple systems now in the test phase would offer some additional functions, such as automatic meter reading, network monitoring and control, and the imposition of time-dependent rates. The costs and the operational reliability

Comments on Load Management
T. Laaspere

March 31, 1976

of the two-way systems are, however, still unknown. A summary of control alternatives for meter switching and load management is presented in Table II.

It should be recognized that whereas most of the common household electric appliances draw power while they are being used (clothes dryers, ranges, irons, etc.), successful load management requires the existence of loads which have sufficient energy storage capacity so that they can be disconnected from the power line for periods of time without depriving the customer of the benefits of their use. In the United States at present only water heaters represent such a load.

In 1974 and 1975 I spent about five weeks in Europe studying the European electric rate structures and the use of the ripple control technique in load management. I found that the European utilities place considerable emphasis on smoothing out the maxima and the minima in the electric demand. The basic approach is to incorporate features in the rate structure which induce the customers to shift some of the use of electricity to the off-peak hours. This has led to widespread use of electric storage heaters which are in most cases turned on and off remotely using ripple control. The results have, in some cases, been rather spectacular. For example, in West Berlin, in ten years the number of electric storage heaters increased from about 5,500 to 90,000. In the same period, the ratio of the daytime peak to the nighttime minimum in the electric demand on the coldest winter day was reduced from about 4 to 1 to less than 2 to 1. On a cold winter

Comments on Load Management
T. Laaspere

March 31, 1976

night, electric storage heaters now represent about half of the utility's load.

In summary, I support those features of H. R. 12461 which encourage the utilities to experiment with new rate structures, as well as with new metering and load management techniques. It is my hope that the trend will be in the direction in which each customer is offered a number of rate and service options which include the proper economic signals to encourage the customer to use electricity with prudence and in such a way as to increase the efficiency of the whole generation and distribution system.

March 31, 1976

TABLE I
A REVIEW OF PRESENTLY AVAILABLE HARDWARE OPTIONS
FOR METERING VARIOUS RESIDENTIAL ELECTRIC RATES

Metering function to be performed	Possible hardware package	Approx. cost of hardware per customer	Comments
1. Total kWh	Watthour meter....	\$20	See notes 1 and 2 below
2. On-peak kWh, off-peak kWh	a) Dual-register watthour meter with internal time switch.....	\$77	Timer not equipped with carryover and must thus be manually adjusted after power outages. Change of on-peak, off-peak hours also requires manual adjustment of timers
	b) Dual-register watthour meter with solenoid operated registers.....	\$60	Power outage problem alleviated but system still inflexible
	+ External time switch with 10-hour carry-over.....	\$68 \$128	General Electric has a timer available with 30-hour carryover which sells for about \$86
	c) Dual-register watthour meter with solenoid operated registers.....	\$60	More expensive than time switch option. System highly flexible - can easily change on-peak, off-peak periods from weekday to weekend, from summer to winter, etc. Cost of ripple control option per customer depends on the number of customers using the option
	+ Ripple control..	\$120 \$180	

Note 1: Metering function 1 could be implemented using Dacro's automatic "over-the-phone" meter reading system which is, however, probably too inflexible for the implementation of time-of-day rates.
Estimated cost: \$55/customer for 100,000 units.

Comments on Load Management
T. Laaspere

March 31, 1976

Metering function to be performed	Possible hardware package	Approx. cost of hardware	Comments
3. On-peak kWh and max kW, off-peak kWh	a) Watthour meter...	\$20	A bulky package but manufacturers should easily be able to combine the last two items into one unit which would sell at a smaller cost
	+ watthour demand meter.....	\$72	
	+Time switch with 10-hour carryover.....	\$68	
		\$160	
	b) Watthour meter...	\$20	More costly, but a highly flexible system. Cost of ripple control option per customer depends on the number of customers using the option
	+ watthour demand meter.....	\$72	
	+ Ripple control....	\$120	
		\$212	
4. On-peak kWh and max kW, off-peak kWh and max kW	a) Two watthour demand meters.....	\$144	
	+ Time switch with 10-hour carryover...	\$68	
		\$212	
	b) Two watthour demand meters.....	\$144	
	+ Ripple control....	\$120	
		\$264	
5. kWh consumption in "high", "medium", "low" rate periods	Watthour meter with internal time switch.....	\$60	General Electric may have a triple-register meter available by the end of 1976
	+ Dual-register watthour meter with internal time switch.....	\$77	
		\$137	
6. Any conceivable rate structure	Magnetic cartridge recorder with internal time reference.....	about \$400	The data handling and processing costs will also be appreciable in this option

Note 2: Metering functions 1, 2 and 5 could also be implemented using the proposed power-line automatic meter reading systems which eliminate the need for visual reading of the meters. Estimated cost of hardware for metering function 1: \$50/customer; for metering function 2: \$100 or more/customer.

Comments on Load Management
T. Laaspere

March 31, 1976

THOMAS LAASPERE

TABLE II. SUMMARY OF CONTROL ALTERNATIVES FOR METER SWITCHING AND FOR LOAD MANAGEMENT

Type	Main Manufacturers	technical characteristics	Cost	Main Uses	Main Strengths	Main Weaknesses
1. Time Switches	In the US: General Electric Sangamo Westinghouse	Essentially a clock-activated switch.	=\$30 incremental if built into meter, =\$65 for a separate unit with a 10-hour spring backup.	Meter register switching. Control of water heater load.	Relatively inexpensive.	Control schedule consuming and costly.
2. Existing One-Way Ripple Systems	Brown-Bovery Comptours- Schlumberger Landis & Gyr Plessey ("Rythmatic") Zellweger ("Decabit")	Coded small-amplitude audio-frequency signal superimposed on the power grid. Signal detected by receivers at customer end.	Transmitters: =\$1000 per MVA of installed trans- former capacity, i.e., total cost increase with system's load. Receiver: =\$70 apiece.	Meter switching. Control of water heater and storage space heater load. Control of street, shop window, and monument lights.	Systems proven in years of operation in other countries. System under utility's control.	More expensive. System becomes an integral part of power grid and must be taken into account in net-work's expansion, change.
3. Proposed Two-Way Ripple Systems	American Science & Engineering General Public Utilities Automated Technology Corporation General Electric ("AMRAC") Westinghouse	Coded small-amplitude signal superimposed on the power grid at frequencies up to several hundred kHz. Both receive and transmit capability at customer end.	Uncertain at this time, but according to some estimates -\$50/customer for simple meter reading, up to \$200/receiver for full capability.	In addition to the functions performed by existing meter, automatic meter reading, imposition of time-dependent rates, feeder monitoring and control.	Provides functions in addition to ripple. Existing ripple systems. Time-dependent rates would greatly increase utility's data-handling operation.	Same as one-way ripple. Also unproven. Use for imposition of time-dependent rates would greatly increase utility's data-handling operation.
4. Radio	Motorola ("800 W System")	Radio-frequency transmissions modulated by audio-frequency signals. One-way.	Transmitters: few thousand dollars apiece. Total cost depends on area to be served, terrain, noise levels. Receivers: =\$65 apiece.	Control of water heaters.	System under utility's control but not an integral part of the power coverage in areas of high load density.	Not as flexible as ripple systems. Present design not proven for sensitive functions such as meter register switching.
5. Phone	Darco Badger Meter	Transmission of information over existing phone lines.	Somewhat uncertain, but estimated at about \$50-\$100 per receiver.	Automatic meter reading.	Uses an existing communications medium.	Coverage incomplete. Phone service has priority.

STATEMENT ON LOAD MANAGEMENT

By

HERMAN DIECKAMP, PRESIDENT
GENERAL PUBLIC UTILITIES CORPORATION

Before

THE SUBCOMMITTEE ON ENERGY AND POWER
THE HOUSE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE

Re. H.R. 12461

Washington, D. C.
March 31, 1976

Load management is a program which is designed to derive the most economic service from the investment in the electric utility system. Its ultimate success involves the application of various techniques to encourage a better utilization of the utility plant. It will depend upon the relative economics of the investments and costs incurred by the consumers vs the electricity price differential justified by specific modifications in usage patterns.

At the outset I would like to make three major points:

1. Load management can make, and is making, a contribution towards slowing the rising cost of providing electric utility service.
2. To achieve this result, the load management techniques employed must be selectively applied, taking into account the particular utility's load, existing resources, and planned additions; what may be good in one particular situation can be highly counter-productive in another.
3. Even for a particular utility, the optimal load management techniques will change rapidly as the characteristics of the facilities of the utility on the one hand, and of its load, on the other, change with time.

The benefits of load management stem directly from the fact that a major cost factor in electric service is the fixed charges resulting from the large capital investment in generating plants, transmission lines, and distribution facilities. The capital cost component of electricity, which is about 50% of the total cost exclusive of fuel, is minimal if these facilities are fully utilized. An added kilowatt-hour deliverable from existing facilities reduces the average capital cost to all customers, while a kilowatt-hour requiring additional facilities increases this cost.

THE INCENTIVE FOR LOAD MANAGEMENT TODAY

The incentive for load management is evident on examination of the relation between the incremental investment for added service to the average investment for existing service or the imbedded cost. In 1970, the U. S. electric utilities provided 1,532 billion kilowatt-hours with a net plant investment of \$79.5 billion, an average investment of \$.052 per kilowatt-hour. By 1975, the investment necessary to provide 1,910 billion kilowatt-hours had grown to \$128.9 billion, an average investment of \$.0675 per kilowatt-hour. The incremental cost of the production capability added between 1970 and 1975 was \$.13 per kilowatt-hour, or about 2 1/2 times the 1970 imbedded cost. The current relationship between incremental and imbedded investment per unit of production and delivery capability is further inflated due to rising prices and environmental protection.

Prior to 1965, the incremental cost of new facilities, as a result of technological improvements and economies of scale, was less than the then imbedded cost. As a result, added load and added production and distribution

investments were advantageous in reducing the cost of electricity to the customer. While it has become fashionable to criticize the past promotion of the use of electricity, this was load management under a different set of ground rules. With today's economics, however, it behooves all of us to achieve the maximum economic value from the facilities we have to permit service expansion with minimum cost.

THE IMPACT OF CUSTOMER USAGE PATTERNS

Both the need for load management and its limitations result from the fact that our lives are synchronized with the sun; we modify the seasonal variation in the environment; we work a five-day week; most business interactions are conducted contemporaneously. In the same way that these life style characteristics impose traffic jams, they impose a time variation in the demand for electricity. Since electricity, unlike most materials and products, is difficult to pre-produce and store, we must install facilities to meet the instantaneous demand instead of the average demand. Within the limits imposed by a variety of factors, the production and delivery facilities can be constructed for a level of service consistent with the average demand instead of the peak demand. In general, this will result in a lower investment per kilowatt-hour and a lower fuel cost than the mix of facilities necessary to meet a widely variable demand.

An electric utility matches its facilities to the demand profile its customers impose. Different fuels and generation facilities are designed to provide the lowest cost service. For example, large coal and nuclear units, called base load plants, coupled with any run-of-the-river hydro generation,

serve that fraction of the load which is present at all times. Smaller coal fired plants are used to serve as intermediate peaking units. Other forms of generation, oil-fired steam plants and oil-fired combustion turbines and pumped storage provide service for that part of the load present only a portion of the time. In general, the base load plants have high capital costs per kilowatt and low fuel costs; the intermediate and peaking units have lower capital cost per kilowatt but higher fuel cost. At today's fuel and capital costs, combustion turbine peaking units, running about 2000 hours/year, have a generation cost of about 4 cents/kilowatt-hour. A new base load nuclear unit operated at 6,000 hours/year has a generation cost of about 2 cents/kilowatt-hour. If the load were flat, all service could be provided by base load plants at less cost than is required to serve a typical load profile. However, starting from today's mix of generating facilities, extended use of facilities which were installed for peaking service, such as combustion turbines, can in some cases incur fuel and maintenance costs in excess of the total cost of new base load facilities.

It is unrealistic to expect a flat load profile, but improvements can be made in the existing patterns of use. The load profile is most simply characterized by a load factor, i. e., the ratio of the time average demand to the peak demand. The annual load factor of the U. S. in 1975 was about 61%. In other words, the total electrical energy used was 61% of what could have been produced if the system operated at its peak load continuously for the full year. It should be noted that our pattern of usage has caused a general decline in the load factor over the years. In 1965 the load factor for the U. S. was about

65%. Weather-sensitive loads, like air conditioning and space heating, have contributed to the decline in load factor.

LOAD VARIATIONS ON A DAILY, WEEKLY AND SEASONAL BASIS

On a daily basis, we use some 30% less electricity during the night than in the day, leading to a daily load factor of about 85%. The weekend usage is less than the weekday usage - thus the load factor viewed on an average weekly basis is further degraded to about 80%.

The variation in seasonal usage is very dependent on climate, and may range from summer peaking to winter peaking, so that the load factor on an annual basis is again degraded by a further factor of .7 to .8, which then results in annual load factors in the range of 55 to 65%. These are typical values. Load factors vary significantly from region to region, urban to rural, industrial to residential.

Some load variations are desirable. Seasonal variations permit us to take major facilities out of service for scheduled repair and maintenance. By using the seasonal off-peak periods, the utility is able to maintain capacity margins and thus service reliability by scheduling the maintenance when the system load demand is lowest. In the absence of such seasonal load variations, a utility would have to install extra capacity for use when units are out of service for maintenance. Scheduled maintenance during the year requires about 10-15% of the available time for major units and thus a seasonal factor of about .85 would provide the minimum useful for maintenance. If seasonal load variations cause a seasonal factor of less than .85, load management is in order and could range from increased summer rates to discourage air

conditioning to reduced winter rates to encourage heating.

Improving the weekly load factor is difficult because the time periods involved are too long to make electrical or thermal storage attractive, and the weekends are too short for anything but minor maintenance. Increasing the Sunday usage for example would require a significant modification of our cultural heritage.

The daily load factor is determined by our 8 a.m. to 5 p.m. society and by the simple fact that our lives and our electrical consumption are synchronized with the sun. There are some things that you and I will never do at 3 a.m., even if the price of electricity is very cheap at that hour. While some industries employ multiple shifts to avoid plant expansion (the direct analog of load management), few industries use enough electricity per man to provide the basis for an attractive trade-off between the labor cost of a shift differential and a reduced off-peak electrical cost.

On the other hand, the daily load pattern offers an opportunity for load shifting because the time scale is such that load can be shifted by thermal storage. In principle, all water heating, space heating, air conditioning, refrigeration, and other low temperature process heat and cooling applications can be shifted off-peak with thermal storage. Heat or cold is applied to a storage tank of water (or other appropriate material) during off-peak hours and is subsequently extracted from storage during other times of the day. Such service can be supplied without adding to peak generating capacity requirements.

Load management is often characterized as an attempt to flatten all

loads. Since many loads cannot be flattened, load management requires development of some loads that are specifically non-flat to complement those that cannot be flattened with the result that the combination is flat.

SHIFTING THE RESIDENTIAL CUSTOMER LOAD

At the residential level, use of electricity for cooking, TV, refrigeration, lighting, etc. is closely tied to individual life styles. The extent to which such patterns can be modified is uncertain. A number of programs to investigate the ability to modify usage pattern through innovative rate structures are underway with FEA sponsorship and through the combined EEI/EPRI/NARUC study. It will be several years before most of the results are in. The average household using 500 kilowatt-hours/month uses about 50% in the day and 50% at night. A shift of 1/5 of the daytime (on-peak) usage to night (off-peak) would be a movement of 50 kilowatt-hours/month. At a day/night rate difference of 2¢, the monthly savings would be one dollar. How much inconvenience will the customer endure to save one dollar?

For the residence with an electric water heater consuming about 1,000 kilowatt-hours per month there is an opportunity to move about 300 kilowatt-hours/month to off-peak. At the 2¢ differential for off peak energy this movement would save about \$72 per year. This should be more than enough to encourage the user to invest in a controlled off-peak hot water heater with sufficient storage volume to minimize the possibility of running out of hot water. The shifted load would reduce electricity demand and associated generating reserve one kilowatt. If that kilowatt of displaced demand resulted in a displaced investment in generating and transmission facilities of about \$600,

there is room to reduce the savings by the required investment in special metering (\$50 - \$150) and still avoid annual fixed charges similar to the savings passed on to the consumer. The lost revenues would be recaptured when a new load takes up the space made available by the displacement. The \$600 investment savings per displaced kilowatt is estimated on the basis of serving the load with an ideal future (1985) mix of base load (at \$1000/kilowatt) and pumped storage (at \$500/kilowatt) facilities.

In the residence with electric heat, the technique of heat storage by use of a storage medium such as a tank of water is also capable of restricting the heating load to off-peak times. The technique is especially useful for those utility systems which have winter or alternating summer/winter peaks. As the cost of electricity increases, we would expect increased use of heat pumps to provide both heating and air conditioning. The combination of heat storage and off peak use of the heat pump can protect the utility system from the sharp summer and winter peaks that could otherwise result from increased heat pump use. The combination of a heat pump and an off peak rate can make electric heat available at about the same cost per net BTU as oil. However, the consumer would have to make an increased investment in the heating system for the storage to gain the advantages of electric heat at an off-peak rate.

OPPORTUNITIES FOR COMMERCIAL CUSTOMERS

In the commercial sector, the greatest opportunity for load management similarly is associated with transferring the space conditioning load off peak by heat storage. Some new commercial buildings already have heat recovery and heat storage systems. As the price of electricity increases, and with a

price differential for off-peak usage, these systems can make a significant contribution to flattening the daily load profile and reduce the rate of peak load and capacity growth.

LOAD MANAGEMENT IN THE INDUSTRIAL SECTOR

In the industrial sector, the price of electricity is almost always broken down into two parts: a demand component based on the peak kilowatt demand in a given time period plus an energy component based on an additional charge for each kilowatt-hour of energy used. Industry has become increasingly aware that their cost of electricity can be reduced by scheduling operations so as to prevent any unnecessary simultaneous operation of equipment and thereby minimize the kilowatt demand. Computer equipment can automate load scheduling within a factory to achieve this objective. While these techniques may limit the bill for an individual customer, they do not necessarily reduce the utility load level unless they increase the randomness of the load variations of a large number of customers to such an extent that the probability of peak buildup is reduced. The normal diversity of a group of customers tends to accomplish this, except when loads are synchronized by simultaneous factory starting times, lunch times, quitting times.

Some industries have energy intensive operations that can be scheduled for off-peak times. In these cases a net load shift and a peak reduction is achieved. Transfer of loads to off-peak times by increased operations on night shifts, however, is interesting only to the most energy-intensive operations, because the normal pay differential for night shift work usually exceeds the electricity cost differential for off-peak service. If off-peak in-

dustrial service were 1¢ kilowatt-hour lower than on peak service, the breakeven may occur at about 25 - 50 kilowatt-hours per hour per employee. The average industrial usage in New Jersey, for example, is about 20 kilowatt-hours per hour per employee.

Some industries, that are extremely high users of electricity, offer an opportunity for an interruptible or curtailable service. This service can be useful for providing capacity reserve margin on those relatively few days a year when the margins would otherwise fall to a point of reduced system reliability. Again, the practicality of this approach requires an equitable balance between the cost of interrupting production and the price reduction associated with such services. The opportunity for true interruptible load is limited. It is important to note that a curtailable load which is available to infrequently improve system reliability margin does not have the value of a load which when shifted to off-peak makes room to accommodate on a regular basis a new load.

IMPLEMENTING LOAD MANAGEMENT PROGRAMS

The implementation of a load management program is multifaceted. It starts with customer education to inform the user about the inter-relationship between his patterns of use, the investment required to serve his needs and the cost basis for determining relative rates. Even though it remains to be seen whether it pays to provide time-of-use metering at the residential level, the composite effort of the residential customers to voluntarily shift some load, e. g. dish washing to an off-peak period can have a meaningful effect. However, it is critical that the customer understand that his effort has the

greatest effect on future costs and not on current costs.

It should be noted that customer education about the wise use of electricity includes conservation as well as load shifting. In the long run conservation is of value to load management to free capacity to serve new loads without the addition of new facilities.

THE IMPACT OF RATE STRUCTURES ON SHIFTING LOAD

The cost of providing meters associated with time of day prices at the residential level, which may range from \$50 to \$150 for a special meter, requires a significant change in usage patterns or load shifting to justify the meter investment. In general, the metering investment is questionable for the average residential customer, but is probably cost-effective for the user with water heating and space conditioning loads that can be moved off-peak with heat storage.

Seasonal variations in rates are being introduced to hold down peak growth and also to provide a better match between marginal cost and price, particularly when customers depart from the average seasonal usage pattern of their rate class.

For commercial and industrial customers that are billed on the basis of demand, the trend is to increase the demand charge preferentiality to encourage an improvement in load factor. This improvement at the customer level is ambiguous as regards benefit to the utility system in that a customer can improve his own load factor to the disadvantage of the system load factor. As a result, load management must recognize a demand charge difference between on-peak and off-peak times.

TECHNOLOGY FOR LOAD MANAGEMENT

In addition to rate structures that better reflect cost of service under varying, off-average conditions, further progress requires new technology. The "new" does not mean scientific breakthroughs. Instead, it means the commercial application of rather mundane technology not currently in use because the economic justification did not previously exist. Multi-register metering, remote metering and control of loads is now becoming available. These technologies will require large scale application to be truly economic.

Probably the one most useful technology will be thermal (heat or cold) storage. These technologies involve devices ranging from the ceramic storage heaters used in Europe to the simpler tank of hot (or cold) water tied into a hydronic or forced air distribution system. For example, a home which uses 3,000 kilowatt-hours per month for space heating (peak month of usage) can be served with off-peak energy if the storage consists of a tank of water that is about 3 feet in diameter by 10 feet long. For heating only, the stored volume can be heated with resistance heaters. For heating and cooling the stored volume can be heated or cooled with a heat pump. In both cases, all energy input can be made off-peak. These systems will also become common when the economics are favorable.

Thermal storage systems can be very helpful in reducing the investment demand on the electric utilities when the prices resulting from the depletion of our natural gas and oil reserves begin to cause a shift to electricity.

The installation by a customer of off-peak space-conditioning equipment permits a much more specific identification of the investment cost of providing

for a particular increment in electric power requirements. Specifically, if the customer does not install storage equipment, and the electric utility has to provide additional generating and other facilities to meet an increase in the customer's load which could be avoided by the customer's installation of storage equipment, the utility's additional investment must be allocated through rate structure to the customer who made the investment necessary. This inevitably involves complex allocation provisions and the relationship between cost and service tend to be obscured. If, however, the customer makes the investment for the storage equipment, and thereby avoids the necessity for the electric utility to install additional facilities to serve his increased load, no such allocations of additional investment by the utility is presented. The customer knows his own cost of providing the storage facility and he pays that cost and no part of it is allocated to other customers.

GENERAL PUBLIC UTILITIES' LOAD MANAGEMENT EXPERIENCE

In support of this discussion, I would like to summarize the results of General Public Utilities experience in this field. We have been actively engaged in load management for about three years. Today, we have reduced our peak load by an estimated 150 - 200 megawatts. We are targeting to bring this total to 450 - 600 megawatts by 1978. This total would be about 8 to 10% of the expected 1978 peak. Our experience has shown that about one-third of this reduction is deferral to off-peak periods. Some of the remaining reduction is through redistribution in the peak period and a major share is eliminated load or conservation. I must add that these are estimates based on detailed knowledge of our customers, but cannot be verified by pre-

cise measurement. To some extent load management has to be an act of faith.

Our program has included an extensive customer information effort to encourage the residential user to "Wait until 8 P. M." to do certain electricity-consuming tasks. A recent system-wide customer survey indicates that 41% of our residential customers are making some effort to adjust their usage.

Our Jersey Central Power and Light subsidiary is engaged in a joint program with the State of New Jersey and the FEA to install 1,000 meters capable of measuring time-of-day consumption and capable of remote reading. GPU has invested in the development of this technology and sees remote meter reading and remote load control as a key future element of successful load management.

Our Pennsylvania Electric Company subsidiary has monitored the time-of-day usage of 37 residential, all electric customers and has determined the shift in usage resulting from the simple addition of a time-clock control and use of the inherent storage capability of their water heaters.

In New Jersey we have closed the tariff for uncontrolled water heaters and we have opened up the controlled water heating tariff to be applicable to home heating with storage. In New Jersey and Pennsylvania we have also implemented seasonal summer/winter rate differentials. We have in place a tariff in both states that makes no charge for night time demand until such demand exceeds twice the daytime demand for commercial and industrial customers.

We are initiating demonstrations of residential and commercial space conditioning systems using heat storage in all three subsidiaries.

Customer load management committees have been formed to examine the detailed usage requirements of 2,500 commercial and industrial customers to identify conservation and load shifting opportunities. A long list of small-to-large load management actions has been identified and implemented.

THE OUTLOOK FOR LOAD MANAGEMENT

In summary, I would like to say that the economics of electrical supply and usage has reached a point where more detailed rate structures and an examination of the cost/benefits of specific loads to determine the optimum mode of service is in order. I assure the committee that sound economic principles will determine the appropriate load management actions. No utility wants to add more investment than is absolutely necessary to provide the service the public requires. As costs increase, it becomes increasingly important to equitably distribute them on the basis of customer usage. Load management will contribute to that objective as well as ensuring that the public derives the maximum benefit from the investment in electricity supply systems. In addition, some load management techniques can provide the customer with an individual option wherein he can balance his investment and inconvenience against his cost of service.

I must emphasize that the geographic, economic and demographic conditions that determine the characteristics of a given utility system's load result in widely varying conditions. Consequently, there may be wide differences in optimum load management incentives and practices between utility companies. There is no simple load management formula that can be uniformly applied to all. The economics of each system must determine the appropriate

load management approach.

Finally, I commend the Committee for its timely inquiry into these matters. The endorsement of load management as stated in HR 12461, Section 204, is reasonable and appropriate. I must, however, urge that the Committee ensure that the load management objectives are not hindered by the translation of well intended legislation into detailed bureaucratic procedures that overlook the inherent differences in the various electric systems and the requirements of their customers and divert endless manpower into studies and filings only requiring more manpower for review and comment. Thank you.

TESTIMONY BY

EDWARD V. SHERRY

Assistant to the General Manager
of CSD - Operations
AIR PRODUCTS AND CHEMICALS, INC.
Allentown, Pennsylvania

BEFORE THE

HOUSE COMMERCE COMMITTEE

SUBCOMMITTEE ON ENERGY AND POWER

ON H.R. 12461,

ELECTRIC UTILITY RATE REFORM

March 31, 1976

NOTE: ATTACHMENTS IV AND V TO MR. SHERRY'S STATEMENT
ARE ON FILE WITH THE COMMITTEE ON INTERSTATE
AND FOREIGN COMMERCE.

My name is Edward V. Sherry. I am a consumer advocate, an advocate for the energy intensive industries and the consumers of their products which in the final analysis includes almost all of our citizens.

I am an engineer whose work experience lies entirely in the production area. My employer for the past 17 years has been the Cryogenic Systems Division of Air Products and Chemicals, Inc., a major producer of industrial gases and cryogenic equipment. My company purchases electric power for its major industrial plants from 19 utility companies, and 3 public power agencies in 16 of the 50 states and from 9 power supply agencies in Europe, South America and Africa. Our electric energy requirements are moderate at each location (5,000 KW to 30,000 KW) but in total add to an energy requirement of between 3 and 4 million megawatt-hours per year.

In a very real sense we could be considered not as consumers of electric power, but as an industry which converts electrical energy into another basic commodity, the industrial gases, oxygen and nitrogen, which are produced and delivered in both gaseous and liquid form. Our product in its liquid state is delivered at temperatures as low as minus 310 degrees Fahrenheit. Our only raw material for this process is electric energy. The air which we separate

into its pure components is a God given good. To the economist, however, it is not an economic good or raw material since it is in abundant supply and is without price.

For each dollar of sales of our division, approximately 25 percent is paid to a supplier of electric energy. This, despite the fact that in addition to industrial gases, we also sell cryogenic equipment and process plants, the manufacture of which is labor rather than energy intensive. In our industrial gas production plants over 40% of the total cost of production is for purchased electrical power. Because of these facts all of our engineering and production personnel are of necessity energy conservation experts. We would not long have remained in the business of producing this highly competitive commodity were this not so.

We have been early leaders in load management and concede to no one a greater expertise in the use of curtailable power as a load management technique. As is the case for most industrial plants, part of our production requires an absolutely continuous supply of electric power to our process equipment and motors since this product is consumed almost instantaneously by pipeline supplied chemical plants, steel mills, electronic plants and other basic industries. A part of our production, however, is used for ultra low temperature refrigeration equipment which converts gaseous oxygen and nitrogen into a form which is somewhat more storeable and much more readily transportable. This part

of our production is most economically supplied on a curtailable rate schedule whereby we shut down this equipment during annual or semiannual peaks or at times when there is a shortage of spinning reserve.

We have been promoting load management via curtailable power ever since our first major merchant plant (6.3 MW) producing liquid oxygen and liquid nitrogen started up in 1960. There are many other industries which can and have utilized this capital conserving technique.

So as not to take the time of this committee with a description of its details and to provide evidence of the fact that we strive to share our experience in load management, I have attached to my testimony an abstract of my 1970 paper entitled "Interruptible Power." (Attachment I) It was distributed as a pamphlet to all of the electric regulatory members of NARUC by Paul Rodgers, their General Counsel, in 1971. Attachment II is an article on curtailable power published in the October 1, 1975 issue of Electric World, which lists 23 U.S. utility suppliers offering such services. This article lists industries which have subjected themselves to curtailment of their power supply in order to utilize this load management technique as a means of reducing their costs, keeping their products competitive and fulfilling their task of maintaining supply of their products at the lowest practical costs. We estimate that these industries

utilize over 140 billion KWH or approximately 10 percent of the total United States electric energy consumption. Given the proper incentives and conditions, the potential for load management by this technique is obvious. As I stated at the 9th World Energy Conference in Detroit in September, 1974, the use of this load management technique for these many years demonstrates a long standing concern for conservation by certain utilities and industries.

(Attachment III)

What is the driving force which long ago developed this beneficial load factor and capacity factor improvement technique? The answer is -- competition. Competition between the consuming industries, competition between suppliers of different forms of energy, competition between electric suppliers in different geographical areas and competition between states and communities for industries which provide employment, taxes, lower overall energy costs and other benefits. Competition in one form or another is the major driving force for innovation. More significantly, it is also the most important restraint on error. It is the way of nature.

The electric utility industry in the United States is by far the most efficient in the world. It has always been and should continue to be a source of national pride and international envy. If any new federal legislation

or regulation were required to guide this industry it should have as its major purpose the maintenance of this leadership by the promotion of competition and local, decentralized decision making.

For the most part, our review of HR 12461 the "Electric Utility Rate Reform and Regulatory Improvement Act," leads us to believe that its enactment into law would be counter-productive to these goals, to load management objectives and to some of its own stated purposes.

THE TIE BETWEEN SUBSISTENCE RATES AND RATES FOR LOW COST SERVICE DISCOURAGES LOW COST LOAD MANAGEMENT SERVICE

The proposed legislation would, in several ways, discourage utilities from offering truly off-peak services such as curtailable power. Section 203(a)(A) (page 11) would tie the price per kilowatthour for a "subsistence" quantity of electric energy to the lowest charge per kilowatthour of energy sold by a supplier. This lowest charge per kilowatthour is likely to be to a high load factor industrial plant, purposely located so that it can be served at minimum transmission cost with minimum losses, taking energy at high voltage in order to avoid transformation losses and investment, potentially on a curtailable schedule whereby part of the plant is shut down or run at reduced demand during the utility's seasonal peak periods; in short,

the lowest cost customer. Any change in the rate charged this customer would automatically trigger a change in the rate for the so-called "subsistence quantity." Quite obviously a utility which does not currently provide low cost curtailable service would, under these circumstances, be reluctant to establish such service and for those utilities which already provide such service the leverage effect of an increase in price for curtailable service would be a major consideration in any rate deliberation, introducing a matter totally extraneous to the cost-price relationship of this customer and his supplier.

COST-OF-SERVICE CANNOT BE DETERMINED FOR BY-PRODUCTS

Section 203(a)(1) (page 10) provides that rates should be set to reflect, to the maximum extent practicable, the cost of providing service. The fact that curtailable and other types of truly off-peak service are by-products of firm service has been well established in the literature. I call the Committee's attention to one article within this text rather than footnoting it since its title and date carries much of the message. ----"Veal, Hide and By-Products - A Dissertation on the Fertile Subject of Cost Allocation - Many Men Propose Many Methods and Common Sense is Needed

as a Modifier." (By Charles S. Reed, Electrical World,
Volume 90, Number 9, August 27, 1927.)^{1/}

The most recent treatise on this subject is Professor Walter A. Morton's article in a current Public Utilities Fortnightly. Professor Morton states at page 29, column (a) "Many products are produced jointly and their costs are therefore not merely unknown but unknowable. This is true of casinghead oil and gas, the various cuts of beef, pork and lamb, and other food products."^{2/} Further down in the same column Professor Morton discusses the pricing of off-season hotel rooms, a favorite analogy used by Dr. Nissel in discussing peak shaving type curtailable power service. For the convenience of the Committee, I have attached the full text of Dr. Morton's article since it is timely and relevant to various features of HR 12461. (Attachment IV)

1/ See also: Hans E. Nissel, "New Capacity Credit Method Provides for Allocation of Costs in Gas Systems," American Gas Journal, 15 October 1953.

Hans E. Nissel, "Supply and Prime Cost of Energy," Electrical Service, Zurich No. 2/3, 1936/39, page 51.

2/ Walter A. Morton, "Long Run Incremental Costs and the Pricing of Electricity. Part I," Public Utilities Fortnightly, Volume 97, Number 6, 11 March 1976, pages 34 through 39.

Walter A. Morton, "Long Run Incremental Costs and the Pricing of Electricity. Part II," Public Utilities Fortnightly, Volume 97, Number 7, 25 March 1976, pages 25 through 30.

Since there would be no benefit or loss to a utility or to its customers to sell at cost, a service which has not capital or return, the provisions of section 203(a)(1) would discourage utilities from offering such service, or at the least give them an additional rationale for refusing.

MARGINAL COST AS DEFINED AT SECTION 201 (1) BEARS NO REASONAL RELATION TO THE MARGINAL COST MICRO-ECONOMIC THEORY

The definition of marginal cost found at Section 201(1) (Page 8) and later referred to as the basis for cost-of-service determinations [Section 205(a) (page 19)] bears only a cosmetic relationship to the term "marginal cost" as used in the texts of economic theory. The use of this term is misleading since it tends to convey a relationship to theoretical optimal allocation of resources.

The definitional description comes very close to fitting the old familiar utility cost allocation terms of "reproduction cost" or "fair value." Since most utilities prefer these methods of determining rates, it will be interesting to see their comments on Section 201. (The Glossary of Electric Utility Terms prepared by the Statistical Committee of the Edison Electric Institute (Publication No. 70-40) defines 'Reproduction Cost' at page 70, as "Estimated cost to reproduce, at prevailing prices, an item of property currently owned. See 'Rate Base.'") This particular point was discussed quite extensively by Dr. William H. Melody in the recent New York and California generic rate cases.

Again, the title of an article conveys so much of the message that it belongs in the text rather than as a footnote
 ---- "The Marginal Utility of Marginal Analysis in Public Policy Formulation" (by Professor William H. Melody - Journal of Economic Issues Volume VIII, No. 2, June, 1974 pp. 287 - 300). This article bears so closely on the subject I have included a copy as Attachment V for the convenience of the Committee. The previously cited article by Professor Morton also deals with this subject.

HR 12461, in its own text, denies the existence in the real world of one of the basic tenets that underlies the textbook development of the theory of optimum allocation of resources, that is the existence of a reasonably satisfactory distribution of income among the potential buyers.^{3/} The proposal for setting rates for a "subsistence quantity" of electric energy without regard to cost is presumably based on the belief that certain groups in our society have insufficient income to participate properly in the market.

It is indicative of the swings that can occur when an essentially technical subject such as electric costing and pricing becomes a political subject, that we are here presented

^{3/} Ralph Turvey, Optimal Pricing and Investment in Electricity Supply (London, George Allen and Unwin Ltd., 1968), p. 86.

with a proposed law that would mandate a "marginal" cost approach when only a few years back, an agency of the Federal Government, the Price Commission, was mandating that no electrical rate increase was legal if its justification included any anticipation of future inflation. (38 F.R. 1479, Jan. 12, 1973). In a way, the proposed bill would embed and institutionalize all of the inflation that has occurred to date, at least for certain rate payers.

INCOME REDISTRIBUTION IS NOT A JOB FOR UTILITIES

It has been amply demonstrated that there is a very low correlation between electricity use and income level in the United States.^{4/} The subject has also been approached in other countries.

At a recent panel on electric rates (Region II Energy Conservation Training Institute, The Conservation Foundation, New York, New York, 11 March 1976) a speaker noted that in one district in New York City there was a greater percentage of the non needy who would benefit from a 250 KWH per month lifeline rate than the percentage of poor who would be affected in a district in Harlem. A recent publication

^{4/} See, e.g., "A Quantitative Analysis of the Consumption of Gas and Electricity by Low Income Consumers in the Pacific Gas and Electric Company's Service Area," Pacific Gas and Electric Company, September, 1974.

of the Commercial Department of The Electricity Council of England and Wales entitled Electricity Tariffs in the United Kingdom stated at page 12:

"Furthermore it is not correct to assume that all small users of electricity are poor and that all large users are wealthy. In any case, the electricity industry is not in a position to identify which consumers need assistance and believes the Governments can do this more cheaply and more efficiently through the machinery for pensions and social benefits."

Further on the same page,

"They [inverted tariffs] would provide an artificial incentive to multiple fuel use, which can waste resources, and could encourage sub-tenancies, and even people associated with the same household, to apply to the Boards for a separate meter and a separate supply."

The use of multiple fuels is already occurring in Puerto Rico, where a form of "lifeline" rate is provided by the Commonwealth Electricity Authority.^{5/}

Another serious problem that results from mandating rates on a national basis is the tremendous differences in electricity use and price in different parts of the country as well as the differences in the percentage quantity of total energy falling into the "subsistence" category for different utilities. One need only look at the difference between Gulf Power Company in the Florida panhandle

^{5/} Discussion at Region II Energy Conservation Training Institute, The Conservation Foundation, New York, 11 March 1976.

and Florida Power and Light Company in the Miami area or the major utilities in West Virginia to see that such a mandate would create problems due to differences even within a state.

Potentially irreparable damage might be done to our regulatory institutions and to our electricity supply industry if we lessen their responsibility for maintaining an adequate supply of electric power at minimum cost by making them social welfare agents. Surely there must be a better way to aid the poor, elderly and disadvantaged.

SECTIONS 208 AND 209 GRANT A LICENSE TO LITIGATION
WHICH WILL EXASPERATE REGULATORY LAG

The regulatory commissions have a responsibility to perform their duties expeditiously and in a manner which does not throw the burden onto the judicial branches of state and Federal government. Sections 208 and 209 create a license to litigation which would surely occur because of the looseness of definition in earlier sections. Such an increase in uncertainty would have a detrimental effect on the future cost and reliability of electricity supply.

PROPER APPLICATION OF THE PROVISIONS OF HR 12461 COULD
LOWER INDUSTRIAL RATES AND CAUSE DRAMATIC INCREASES IN
SMALL BUILDING AIR CONDITIONING RATES

High load factor industrial customers with around-the-clock operations use a much higher percentage of their energy

on off-peak hours than is the case with residential and commercial customers. A truly accurate cost allocation method would determine the average variable cost for each of the 8,760 hours of the year and allocate variable costs on that basis, taking into account the lower energy cost of base load units at night and the lower losses to serve at high voltage. Existing general practice is to use one or a few broad average energy rates which shift part of the cost burden away from the low load factor, mostly residential, users to the high load factor users.

In the allocation of joint costs, such as generating and transmission plants, again the traditional methods of cost allocation discriminate against the large industrial user. No matter what "cost" is being allocated, "marginal cost," "LRIC," "average cost," "replacement cost" or whatever, some arbitrary allocations must be used to make jurisdictional splits and to distribute costs between customer classes. No legislation can change this fact of nature. High load factor industrial customers would benefit from any cost allocation method that gave increased emphasis to cost-incurrence attributable to daily and seasonal time of use.

DECLINING BLOCK RATES REFLECT COST-INCURRENCE

For those customers whose service does not economically justify a recording demand meter, declining block rates are

cost justified. This is the conclusion of generations of cost engineers who have studied the subject. Almost any of the 1927 issues of Electrical World lead you into the debate between Professsor Arthur Ford, H. W. Hills of the Philadelphia Electric Company, W. J. Greene of Iowa Railway and Light Company and others. At the same time, similar pioneering work was being performed in other countries by such persons as Dr. Hans E. Nissel, who we are fortunate to have currently participating in the national debate on electric rates as a U.S. citizen.

Constantine Bary summarized his and others' research in a classic text entitled "Operational Economics of Electric Utilities"^{6/}. Mr. Bary told me that a large part of the load research which became the basis for his often cited "Bary Curves" was performed during the depression, not so much as a make-work job, but because it was difficult to provide an advance cost-benefit analysis for such pioneering basic research. Let's hope that we don't obtain future load studies with the same justification. Mr. Bary's entire text is important, but Chapter 9 is a summary explanation of cost-of-service rates. It is often stated that the declining block structure results from collection of the non-variable customer cost and the allocation of the capital costs of distribution and transmission equipment to energy

^{6/} C. W. Bary, Operational Economics of Electric Utilities, Columbia University Press, New York, 1963.

charges since there is no demand meter for many services. Mr. Bary points out other factors which are important in consideration of the peak generating investment, such as the relationship between load size and load factor and the probable portion of the load on the system peak. Pages 106 and 107 of Mr. Bary's text are particularly informative. Mr. Bary concedes that at the low end of a typical declining block rate (small usage) the revenue curve is less than or at least in the lower range of uncertainty of the cost curve. This deficit is partly made up in the mid range. The high range (large usage) is priced high enough to recover the deficits of customers with small use and to recover the cost to serve it, with the proper consideration for diversity. Mr. Bary concedes that some consideration is given to inducement of use. This effect is small and is not a result of the declining block structure itself, which generally tracks cost and is therefore non-promotional. Mr. Bary's text was printed in 1963. Today fuel adjustment charges are so high on almost all rates that the rate structures are essentially flattened. Thus, the debate about declining blocks is relatively academic. An excellent reference to the current state of the art is the 1974 Report of the General Counsel on Economics of NARUC presented by J. Edward Smith, Jr., at the eighty-sixth annual convention of NARUC, November, 1974.

EVIDENTIARY (ADVERSARY) PROCEEDINGS BREED DIVISIVENESS
AND DISCONTENT

In a democracy every sector should be heard from and all facets of each subject examined in order that an acceptable consensus be reached. There are limits, however, to the value of straight evidentiary proceedings. When each group is forced by procedure to hire professional gladiators to provide legal advocacy of their position, there is little room left for the democratic processes of compromise and negotiation. A particularly apt review of this subject is found around page 221 in "Citizen Groups and the Nuclear Power Controversy."^{7/} Not only does this book review the question of adversary (evidentiary) hearings but it reminds us of the strength of citizen intervenor groups. Any daily newspaper will demonstrate that these groups are alive, active and effective. We do not believe that they need additional support from the Federal government nor that further divisiveness need be institutionalized as called for by Sections 207(a) (page 25) and Section 308 (page 40).

The March 2, 1972, issue of Public Utilities Fortnightly carried an article over the signature of its editor Francis X. Welch entitled "Are Lawyers Wrecking Regulation." The Article

^{7/} Steven Ebbin and Raphael Kasper, Citizen Groups and the Nuclear Power Controversy (The MIT Press, 1974).

reviews a Michigan Law Review article (Vol. 70, November 1971, p. 195 - 220) by Law Professor Charles Donahue, Jr. Professor Donahue in 1971, apparently desired to turn the field over to economists. Perhaps we can look forward to a future article entitled, "Are Economists Wrecking Regulation?"

THE EFFECT OF CENTRAL GOVERNMENT ON UTILITY RATE REGULATION
IS CONTRARY TO THE GOALS USED TO JUSTIFY CENTRALIZATION,
EXAMPLE - FRANCE AND ENGLAND

The net thrust of HR 12461 is to further centralize the control of electric utilities in the Federal Government. An old lesson needs to be relearned. An Old Testament proverb says "Where there is no guidance, a people falls; but in an abundance of counselors there is safety." (Proverbs 11:14) In England and France, the central government uses its control over the electricity supply industry to influence the major social, economic and political goals of the party in power. Neither central government allows actual rates to be set according to the theories of the professional economists (who are probably greatly relieved).

The French tariffs, although at one time correlated to each other and to geographic regions by a marginal cost analysis at the time the various private utilities were nationalized, are no longer related to cost. Electricité de France operates at a loss as a matter of governmental policy and the rate structure operates without a fuel

adjustment clause. A French economist put the matter succinctly into focus with the following statement which follows a description of the proposed rate structures as a "beautiful theoretical construction." Professor Berthomieu said "The public authorities act in an authoritative quasi-exogenous manner."^{8/}

The situation in Great Britain is highlighted in two articles from the London Financial Times dated July 5, 1974, and July 29, 1974. (Attachment VI) These indicate the size of the deficit and the political problems that resulted from the loss of the percentage differential between storage heater and day rates arising from the fuel adjustment factor. At the current time (1976) the British government is reversing its policy of 1974 of granting a lower fuel adjustment for night rates. Our electrical consumption is approximately 8 times greater than that of England and Wales, hence the problems that could result from increased central control in the U.S. would be enormous.

^{8/} Claude Berthomieu, "General Description of the Influence of Price on Demand: Theory and Practice of Electricity Pricing in France," Energy Systems Forecasting Planning and Pricing Proceedings of the French-American Conference University of Wisconsin-Madison, C. J. Cichetti and W. K. Foel, editors, p. 281.

METERS DO NOT PRODUCE GOODS

A review of the history^{9/} of the electric industry clearly indicates an evolution of rate theory and practice as new meters and computers become economically viable. We detect no force at work which would stop this evolution and with the rapidly decreasing prices of electronic calculators and watches, the trend is probably accelerating. It would be a mistake to legislatively try to change this trend. In an article in the previously cited University of Wisconsin Symposium,^{8/} J. G. Boggis of the Electricity Council of London^{10/} stated:

"The findings of the experiment [Load and Market Research Report No. 121, Domestic Tariffs Experiment," Electricity Council, London 1970 - Report of 1966-1967 to 1971-1972 Pricing Experiment] were that in each case the costs [meters] exceeded the benefits."

Of course, in the absence of the meters, on small users, some propose penalty type peak load rates to large users whose timing of demand is already known, as recently stated by Francis X. Welch,

"You just can't push thousands of little people around as easily as you can push dozens of big people around."^{11/}

^{9/} A particularly readable example is Forrest McDonald, Insull (University of Chicago Press, 1962). See the 1917-1923 period and particularly, pp. 201-202, for a description of problems similar to the recent past.

^{10/} Cicchetti, op. cit., p. 380.

^{11/} F. X. Welch, Introduction delivered at the 1976 Symposium on Rate Design Problems of Regulated Industries, University of Missouri - Columbia, 22 -25 February 1976.

If all the meters existed were cost justified, and rates were set rationally, residential rates might in some cases be justified at politically impractical levels with revenue requirements balanced by lower rates to off-peak and high load factor industrial users.

The industrial customers do not want the utility industry to invest capital in meters that essentially produce nothing of value other than data and so-called "price signals" unless there is a clear indication that the investment will pay out.

AN INFORMED PUBLIC IS ESSENTIAL

At the University of Missouri Symposium of February, 1976, previously cited, Mr. Welch spoke eloquently of the need to educate the public; among other comments he asked why the airlines do a better job of explaining what is happening to their regular [reserved] customers, as well as to their irregular [stand-by, leisure class] customers as a result of special fares. A massive public relations job is called for to explain regulation, government involvement, and the electric utilities industry to the public.

DISCUSSION OF INTERRUPTIBLE POWER

M. H. Halstead and E. V. Sherry
Air Products and Chemicals, Inc.
Allentown, Pennsylvania
October 22, 1970

DEFINITION

Interruptible electric service is provided by using production and transmission plant constructed for firm customers if and when the capacity of such plant is not required for firm service. Interruptible service is therefore a by-product of firm service and can be provided without, all but insignificant, investment by the utility.

PREFACE

At least for the near future, industry in certain parts of the country is going to have to learn to live with the probability of occasional periods of power curtailment, or power rationing if you will. Witness the events of last September⁽¹⁾ in the P.J.M. interconnection and the increasing frequency of voltage reductions in parts of the country. It does no one any good to ignore these events and hope they will go away; they will be with us for some time.

Curtailments handled in a relatively unplanned manner based on the spur of the moment good will of industry were not too unsatisfactory for the initial unforeseen problem but are not satisfactory, or acceptable to industry as a way of life.

For most industrial production, the curtailment of electric power is an economic disaster.

The seasonal shortages of power owe their timing of occurrence to uses which do not lend themselves to storage, such as air conditioning and almost every other domestic and commercial use of power. Industrial products for which electric power is essential but is only a very small factor of production are not a viable means for curtailing the use of power, since reducing the availability of power idles all the other, more valuable productive equipment and manpower and is therefore very inflationary.

If power cannot be stored for use in peak periods, certain industrial products which have very high electric energy content are storable and the net effect of co-operative arrangement between these producers and the utility supplier

(1) September, 1970

is the same as storage of electricity. Such arrangements exist for certain very power intensive industries, where, because of joint cost savings, the industries and the supplying utilities have for many years agreed to a co-operative method of reducing the industrial use of power during peak periods and emergencies. A review of the procedures used in these instances should be very valuable in planning the most economical method of curtailing a broader range of industries if this is necessary.

First it is well to review why such arrangements, which are generally called interruptible or curtailable power schedules, are made in the first place. Most power consumers are unaware of the relatively enormous cost to generate power for use only during the few highest demand hours of the year.

In the normal summer peaking utility grids in the east and southwest, there is a period of about 200 hours per year during which the customers' requirements for electricity are sharply higher than at any other time. The cost to produce this power is extremely high since the generating equipment that must be made available will necessarily be idle for the remainder of the year. Utilities normally purchase peaking units for this service. These units have an annual ownership cost of \$18 per kilowatt per year and inefficiently consume an expensive fuel such that the cost of electricity is about 10 cents per kilowatt hour. If the utilities charged this cost directly, rather than averaging it in with lower costs during low demand periods, a number of industrial users would find it to be an out of pocket loss to operate during the utilities' peak periods. For example, liquid oxygen requires 800 kilowatt hours of power for one ton of production. At a power cost of \$0.10 per kilowatt hour, this would be \$80 per ton, which is more than double the normal delivered price;⁽²⁾ chlorine requires 3,000 kilowatt hours per ton and the power cost would be \$300 per ton!

The industrial plant cannot command prices for its product commensurate with these costs since the use of its product is not time related; it is not immediately consumed during the instant of production; it is storable. Therefore, when all the facts are known, industrial plants would find it more economical to install added production and storage equipment to permit them to curtail during the utilities' annual or semi-annual high cost hours. This is true for any industry for which power is a major cost factor and which is technologically able to reduce or eliminate and restore power use without extensive quality or other production problems. All

(2) 1970 Prices

electrochemical, most cryogenic plants, steel finishing mills, coal crushing operations, some paper mills and a number of other industries are in this category. The total load that could operate in this manner is a function of the amount of cost savings made available to the customer and the aggressiveness of the utility sales organization if they were to fully support such a program.

If we must have rationing of power, the least inflationary means to properly allocate the scarce resource is by price. We would suggest that marked discounts be made available to those industrial customers who would agree to curtailed electrical demand when system-wide shortages exist. Over the short run, this would lower the utilities' income but the difference would be made up in the long run by reducing the need to purchase additional peaking capacity.

An additional area of concern is that each utility attempts to control its own peak demand irrespective of the peak demand of the interconnection or reliability coordination area. Additional attention should be given to the status of these controllable loads in the interchange tariff schedules such as FPC Schedule 21, and P.J.M. interchange agreement. This particular agreement penalizes a utility for having a better load factor than the average of the interconnection. In some cases, interruptible loads of a winter peaking utility belonging to a summer peaking interchange, are curtailed only in the winter and operate through the critical period of the summer peak.

A major relief of the recurrent power shortage situation could be obtained in an economical, non-inflationary manner by more vigorous promotion of interruptible power.

Normal utility regulation allows more benefit to the owners of the utility for growth of generating capacity than efficiency in use of existing capacity. Some means should be provided to reward or penalize utilities for their performance in improving system load and capacity factors up to optimum efficient levels which is about 20 percentage points above the current normal of 55 percent load factor.

The following article outlines a viewpoint on the pricing and value of such service. Also, attached as an appendix are some quotations from the literature on utility regulation, representative rate schedules and some recent testimony on the subject.

ABSTRACT

The attached discussion presents the authors' belief that interruptible power should be promoted more vigorously by the electric utility industry in the United States. In order to provide additional incentive to the utilities to promote interruptible power, the authors present their arguments that the utilities should be permitted additional return as a bonus for promoting interruptible service. The authors show that interruptible power is a benefit to all concerned. The stockholders of the utility should enjoy higher rate of return; the local service area of the utility benefits from better utilization of the power companies facilities and therefore less disturbance of the ecology by construction of power plants; the residential and commercial customers of the utilities benefit by lower firm rates and the general economy benefits due to promotion of basic industry. The authors use a capacity credit method for determining the distribution of the credit due to interruptible service to the other classes of customers. This capacity credit method is an adaptation to electricity of a method which has been tested and proven in interruptible natural gas pricing and demonstrates that interruptible natural gas pricing is a by-product of service by residential and commercial customers.*

SUMMARY

We have reviewed all available textbooks by rate engineers and economists on the subject of electric rates, utility economics, and the economics of regulation; and numerous articles on the subject. These in addition to discussions with persons knowledgeable in this field and our own experience in dealing with interruptible power form a basis for the following discussion. Most texts discuss interruptible gas at length but dismiss interruptible power as not practical to the user, therefore this study fulfills the need of providing a basis for open discussion of this subject.

One of the results of this analysis is an essentially new concept of interruptible power that results from a transfer of the large body of thought on interruptible gas rates to the electric situations. Two additional concepts are also

* Nissel, H. E. "New Capacity Credit Method Provides for Allocation of Costs in Gas Systems", American Gas Journal, 1953

made available: that interruptible power is viewed as a benefit in the current ecology concern and has a public relations benefit in this regard, and, the thought that electric utilities should be permitted a higher rate of return if they actively promote and sell interruptible power.

This last item is important since otherwise interruptible power has a tendency to be counter-productive to a utility by not causing enlargement of the rate base. At least in theory, the only way a utility earns money for its stockholders is through the leveraging of the return on the rate base. Electric utilities must continue to expand the rate base in order to survive. This essay presents arguments which although novel to regulatory practice would make interruptible power extremely attractive to utilities.

CONCLUSION

In the past, interruptible electric contracts despite the large advantages that they give to utilities were developed primarily only to attract new business that could otherwise not be acquired. As such they have numerous restrictive clauses. However in the decade of the seventies when it does not appear possible to build capacity fast enough to meet demand and the public is opposing each new power company site, we believe that interruptible rates will be promoted even for existing customers. With rapidly rising costs this may be the only means for industries that require large amounts of power to maintain their markets. Such a move would be in line with public policy to hold back inflation, and would aid the utility industry to maintain reliability of service to firm customers without having to depend on voluntary cooperation of industry in addition to the aid it would give in keeping electric rates low by enabling better planning of system generating expansion. We believe that the time has come for the idea of interruptible power to take its place as a major factor in the continuing progress of the electric utility industry in the United States and that much more will be written and said on the subject in the next few years.

ENERGY MARKETING

Curtailable service rates can cut peaks

Use of curtailable-load rate schedules improves system load factor; needed revenues are generated during all but peak periods

Definitions

Spinning-reserve service

Service provided to a customer which is produced from generating equipment purposely operated in a less than full-load condition. This generating equipment is normally used to meet instantaneous system demand, large customer loads in excess of short-term expectations, or unforeseen loss of a major generating unit or interconnection. Such service is curtailed instantaneously or with up to ten minutes' notice when the energy required from this equipment is needed to maintain system integrity. Curtailments are frequent, but usually of short duration.

Peak shaving service

Service to customers who are provided, on no less than a daily schedule, with the data or signals that indicate when conditions exist on the utility system that could potentially cause annual or semiannual system peak. The customer then must decide whether or not to limit his demand on the utility's system. Alternatively, the customer is notified by the utility, on no less than a daily schedule, whether the customer must curtail his interruptible load for the duration of that day's peak load. Such service provides a price incentive for the customer to curtail his electrical use to avoid contributing to the system peak demand. Curtailments due to peak shaving are usually of longer duration than those under spinning-reserve power service, but are less frequent.

Interruptible service

Service from hydroelectric sources from which supply is contemplated under all but critically low stream flow conditions or other critical peak or energy situations. This also includes service to utilities or customers who have an alternate source of power, and the supplying utility has full contractual right to curtail deliveries for an extended period of time. Curtailments are infrequent, but can last for months.

In the past year, the use, availability, and desirability of interruptible rates as a load-management tool has received a great deal of attention. Despite the fact that this form of service has been used for decades, it is not well publicized, or well understood. Actually, both utilities and manufacturing industries, actively working together to use such service, have shown a long-standing commitment to conservation and efficiency.

The sharing of net savings due to curtailment of load is the inducement for the customer and the utility to continue this relationship. The utility saves at least the cost of ownership and operation of peaking capacity. On a fully allocated cost basis, its only cost is fuel.

Curtailable power is electricity service of lower reliability. But only in clearly defined terms is this service acceptable to customers while still of value to the utility. It is acceptable to customers only so long as the utility is well managed and is maintaining a high degree of reliability for its firm service.

Unlike interruptible gas, the users of interruptible power do not normally have an alternate source of power, and therefore must curtail their production to satisfy utility supply conditions. Also, most curtailable-load rate schedules are based on seasonal variations in demand and on spinning-reserve requirements of the utility, not on the availability of water for generation. It therefore aids clarity and avoids unsatisfactory comparisons if the term "interruptible" is limited to hydroelectric and standby situations. Definitions of curtailable service would be according to conditions set by the utility (see box).

The representative, but by no means exhaustive, list of curtailable rate schedules shown in the table on the next page demonstrates the availability of these rate schedules in all parts of the US.

Utilities offer this service to improve system load factor. Load factor (expressed as a percent) is the ratio of the average load in kw to peak load for a given time period. It is the single most

important characteristic indicating the pattern of use of a utility's customers. The illustration on the next page shows a typical electric utility load-duration curve. It is obtained by plotting system demand against the number of hours per year that this demand is equalled or exceeded. Note that, with a typical utility load factor of 62%, the top 5% of demand occurs during only about 200 hours of the year. This means that, with adjustments for the time required for maintenance, and the fact that some units are designed to operate only during peak periods, a utility's investment in generation equipment is vastly underutilized. Since curtailable-type customer loads typically have a high load factor, they can add to all but the peak hours of the load-duration curve and, thus, improve the overall load factor and use of utility equipment.

A second and more sophisticated reason for utilities to encourage curtailable service is to improve the system capacity factor—the percentage ratio of average load to system capacity. In order to maintain system reliability, utilities must keep some generators on line not fully loaded, in order to take care of variation in demand and to maintain system integrity by their ability to pick up load in the event of an unexpected loss of generation. Curtailable service can be provided from such spinning reserve, because the reserve capacity can be made available for the protection of firm-service customers by ceasing delivery to the curtailable customers. In this way, idle reserve capacity is converted to revenue, with the only expenditure being the fuel required for the additional energy needed. The cessation of delivery is a more reliable event than the starting of a peaking turbine, and this form of reserve is, therefore, valuable in peak periods.

In a strict sense, spinning reserve does not improve the system load factor as much as peak-shaving, except where procedures define load factor in such a way that curtailable loads can be subtracted from system demand for the purposes of calculation. Because the curtailable load is part of spinning reserve, this is a reasonable procedure.

By Edward V. Sherry, Manager, Energy Systems, Air Products and Chemicals Inc., Allentown, Pa.

Representative listing of interruptible rate schedules

Utility	Rate	Typical user	Reason for curtailment	* Notice	Length of curtailment	Curtailments per year (avg)
Northern States Power	Firm & interruptible large general service	Steel mill	System integrity	Instantaneous to several hrs	1 to 8 hr	12
Tampa Electric	Electric-furnace interruptible	Mining phosphate & arc furnace use	As required	None	—	—
Commonwealth Edison	Rider 17, electric-furnace interruptible	Steel manufacturing	As required	30 minutes	3 to 6 hr	1-7
Florida Power	1-3 & contract	Phosphate & furnaces	Spinning reserve short	Instantaneous	1 to 7 hr	30
West Penn Power	Schedule 44, primary power	Air separation, metal-alloy furnaces	Spinning reserve short	Minutes	4 to 7 hr	20-40
Duquesne Light	Interruptible	—	As required	Minutes	—	300 hours
Gulf States Utilities	Rider to Schedule LIS	Chlorine production	As required	Minutes	1 to 30 hr	20
Jersey Central P&L	Rider II, curtailable service	Air separation	As required	Minutes	5 hr	20
Cleveland Electric Illuminating	Contract	Steel mills, chlorine, air separation	As required	Instantaneous	5 hr	30
Deimars P&L	"Q" curtailable service	Chlorine prod., air separation, steel arc furnace	Reduce on-peak demand	Minutes	4 hr	25
Idaho Power	Contract	Phosphorus	Critical low water, system integrity	Normally 24 hours	12 hr	—
Union Electric	Interruptible	Zinc & rubber reclaiming	System integrity	Minutes	—	—
Illinois Power	Interruptible	Steel mills, air separation	Reduce on-peak demand	Several	7 to 12 hr	10-20
Connecticut L&P	Curtailable rider	Air separation	Reduce on-peak demand	Minimum 24 hr	2 hr	100 hours
Florida P&L	Curtailable industrial service	—	Reduce on-peak demand	Several hours	4 hr	—
New Orleans PS	HVRC 1	Air separation, liquid hydrogen	Reduce on-peak demand	Customer control	4 to 6 hr	25
Northern Indiana PS	Rate 702, Rate 703	Steel mills, air separation	Reduce on-peak demand	Customer control	4 to 6 hr	25
Southwestern Electric Power	Contract	Air separation	Reduce on-peak demand	Minutes	4 to 6 hr	5
TVA	3% interruptible power	Ferroalloys, smelters, electrochemicals, chlorine prod	Reduce on-peak demand	5 Minutes	Up to 12 hr	Max 600 hr/yr, 3% per 10 yr
BPA	Schedule IF 1, industrial firm power	Smelters & rolling mills	Critical low water, system integrity	As short as possible	Up to 12 months	—
Alabama Power	Interruptible amendment to contract	Steel, cement, chemicals, paper	System integrity	15 min (3 to 4 hour avg notice)	4 to 6 hr	16-50
Ohio Power	IRP	Ferroalloys	Spinning reserve short	Instantaneous	Variable	Numerous

The Handbook of the Florida Electric Power Coordinating Group states, in Section III: "Spinning Reserve—The term Spinning Reserve . . . means the reserve generating capability connected to the bus, ready to pick up load immediately, and capable of becoming fully applicable with a frequency decline to 59.5 Hz. . . . Since contractually interruptible load, when it is interrupted, releases generating capacity that is instantly available, a participant may place such load on underfrequency relay control and count the amount of this load so placed as Spinning Reserve up to 50% of his allocation. . . . Fepco is considering raising this figure to 75%.

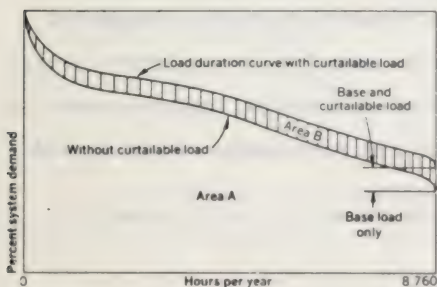
It is apparent from the above that curtailable service is a true byproduct of firm service, similar to leisure-class or standby airline service, or off-season service at resort hotels.

Even if curtailable service is available, one question remains: Why would any industry accept such seemingly lower reliability of its electric supply? For the majority of industrial processes, this type of service would be untenable at any price. However, there are a good many manufacturing operations, ranging from individual manufacturing steps to entire plant locations, where operational changes and full or partial outages are acceptable ways to reduce

electric demand without damaging equipment or material in process.

If, for these operations, the cost of electricity is high relative to labor and capital, and if the product or material in process can be stored to keep other parts of the plant in operation, they are candidates for curtailable power. The most obvious examples of such manufacturing are coal crushing, mineral and rock crushing related to mining and cement manufacturing, rolling mills, ferroalloy furnaces, are furnaces, electric melting operations, induction-heating applications, electrochemical processes, and the industrial-gas industry.

The manufacture of liquid oxygen and liquid nitrogen by the latter industry is a good example of the type of process that is adaptable to curtailable service. Using electric power and air as raw materials, cryogenic air-separation plants purify and liquefy air to permit its separation by distillation into its major components—oxygen, nitrogen, and argon. Electricity is the major variable cost of production, exceeding 40% of the production cost. During the curtailment period, electric use at 20-25% of normal continues; liquefaction does not. The refrigeration equipment in this type of plant can be shut down on short notice. And the stored product liquids are shipped at temperatures that can be as low as -320°F. ■



Load-duration curve shows that curtailable load improves load factor (area under curve) without adding to peak load. Area 'A' represents typical utility system without curtailable load. Area 'B' is the curtailable load that is dropped at times of system peak load.

REMARKS OF EDWARD V. SHERRY
DELIVERED AT
THE 9TH WORLD ENERGY CONFERENCE

DETROIT, SEPTEMBER 26, 1974

SECTION VI - UTILIZATION OF ENERGY

My name is Edward Sherry, USA delegate 0426.

I wish to discuss interruptible, peak shaving and spinning reserve power which has been a special study of mine for many years.

Mr. Chairman, if you will first permit me one short digression into patriotic chauvinism. I would like to comment on the too often heard statement that there is obvious waste in this country because, with only 6% of the world's population, we consume up to 1/3 of the world's energy. There may well be energy waste in this country, along with other industrialized nations, but this particular statistic does not prove it and grossly distorts the true situation.

This is a vast country with great climatic extremes requiring large energy use for transportation, for heating and for cooling. The benefits of our highly efficient industrial plants are spread broadly across the population as can be noted by the relative statistics of saturation of sales of items such as food freezers and television sets. We are proud of the fact that we have spread our wealth broadly through our population.

The United States has been blessed with abundant energy resources in its rivers; in thick seams of easily mined coal; in petroleum and in natural gas which, as a by-product of oil production and exploration, was very cheaply priced. This abundance of energy has enabled us to improve the productivity of our work force and to competitively manufacture products some of which have high energy content. Our exports partly consist of these manufactures, the energy content of which is consumed elsewhere.

Our industrial plant will have to adjust to a new balance between energy and other costs, but an economist would not term the previous balance as waste.

For certain industrial products -- such as electrochemicals, ferroalloys, aluminum, arc furnace steel, and industrial gases -- energy, and I speak particularly here of electrical energy, represents from 20 to 50% of the cost of manufacture. No matter what the unit price of this energy, since it is the first or second, single most important cost, efficiency of use has always been a major concern. Improvements in the efficiency of these processes will continue to occur as new technology is developed, but since electricity has always been a primary cost, the recent increases in energy prices cannot dramatically accelerate this trend.

Companies in these industries have worked closely with their electric utility suppliers to find means to modify their operations to reduce the utilities' cost and improve the overall efficiency of the combined operation.

We would like to commend these utilities for their excellent

work in this regard. Of particular note is the Delmarva Power & Light Company Schedule "Q" which combines time-of-day energy metering with a limited interruptability feature which, for a price concession, permits the utility to markedly improve its load factor by reducing service to a chlorine plant, an air separation plant and a steel plant during its peaks. Curtailment of service occurs about 25 times per summer. These customers do not have an alternate source of power. They stop production during these periods. In effect, they store energy in the form of stored energy intensive product.

Other notable examples are the rate schedules of New Orleans Public Service and Northern Indiana Public Service, where the industrial customer is continuously supplied with electronic data on the entire utility system load and a large economic incentive is provided to these customers to cease production in order to avoid the peaks.

The Ohio Power Company serves energy intensive industry out of its spinning reserve, increasing or decreasing the rate of supply to these companies on instantaneous notice as many as 300 times per year.

Along with West Penn Power Company, Jersey Central Power & Light, Buckeye Power, the Illinois Power Company and Cleveland Electric Illuminating Company, there are about two dozen utilities some of which have offered such schedules for over 15 years.

This is not a large percentage of the several hundred electric utilities in the country but it is sufficient to demonstrate a long standing concern for conservation by these utilities and these industries.

APRIL 1, 1976

STATEMENTS OF: HON. FRANK G. ZARB, PANEL ON "LIFELINE"
RATE PROPOSALS, AND DENNIS BAKKE

NOTES

The first of these is the fact that the rate of reaction is independent of the concentration of the reactants. This is a characteristic feature of a catalyzed reaction. The second is the fact that the rate of reaction is independent of the concentration of the catalyst. This is a characteristic feature of a homogeneous catalyst. The third is the fact that the rate of reaction is independent of the concentration of the product. This is a characteristic feature of a reversible reaction. The fourth is the fact that the rate of reaction is independent of the concentration of the solvent. This is a characteristic feature of a reaction in a homogeneous medium. The fifth is the fact that the rate of reaction is independent of the concentration of the reactants. This is a characteristic feature of a catalyzed reaction.

THEORY OF THE CATALYTIC ACTION OF THE CATALYST

The theory of the catalytic action of the catalyst is based on the fact that the catalyst provides an alternative pathway for the reaction, which is of lower energy than the uncatalyzed reaction. This is because the catalyst is able to form a complex with the reactants, which is of lower energy than the reactants themselves. This complex then breaks down to form the products, and the catalyst is regenerated.

The rate of reaction is therefore determined by the rate at which the catalyst forms the complex with the reactants, and the rate at which the complex breaks down to form the products. The rate of reaction is therefore independent of the concentration of the reactants, and the concentration of the catalyst.

The rate of reaction is therefore independent of the concentration of the reactants, and the concentration of the catalyst. The rate of reaction is therefore independent of the concentration of the reactants, and the concentration of the catalyst. The rate of reaction is therefore independent of the concentration of the reactants, and the concentration of the catalyst.

The rate of reaction is therefore independent of the concentration of the reactants, and the concentration of the catalyst. The rate of reaction is therefore independent of the concentration of the reactants, and the concentration of the catalyst. The rate of reaction is therefore independent of the concentration of the reactants, and the concentration of the catalyst.

STATEMENT
OF
FRANK G. ZARB
ADMINISTRATOR
FEDERAL ENERGY ADMINISTRATION
BEFORE THE
SUBCOMMITTEE ON ENERGY AND POWER
OF THE
HOUSE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE

APRIL 1, 1976



INTRODUCTION

Mr. Chairman and distinguished members of the subcommittee, I appreciate the opportunity to appear before you today on the subject of electric utility rate and regulatory reform.

The regulation of electric power, in fact the entire concept of electricity, has been the subject of intense discussion and disagreement for some time. The legislation we are focusing on today, H. R. 12461, is a response to part of a broad range of complex and inter-related problems. Before I make any statements about the pros and cons of such a response, I would like to discuss briefly the overall situation facing this critical energy sector.

BACKGROUND

Over a year ago, when the Administration first introduced Title VII of the Energy Independence Act, the electric utility industry was in the midst of an unprecedented crisis. The problems touched upon many key National issues: energy availability, fuel mix, financial, regulatory, environmental, consumer and conservation.

We agree that, in some ways, the crisis situation has abated. However, this does not mean that any of the basic problems have been solved. Just the opposite is true. Many of the problems -- which clearly preceded the 1973 embargo and subsequent rapid rise

in fuel costs -- are still here today. What has happened is that we have become "accustomed" to the way things are. The economy, consumers, and industry have come to accept the original crisis factors - higher fuel costs, higher rates, - as the status quo.

As a nation, we are still faced with the underlying problems which have yet to be fully understood and which must be resolved. These problems can be summarized as: increased uncertainty and a lack of timeliness.

Uncertainty affects all aspects of the energy and electricity situation and tends to increase consumer costs. The industry faces uncertainty in fuel costs and availability, in demand projections, in construction and expansion plans, and in rate of return decisions.

It is the consumer who pays the ultimate cost of uncertainty in higher interest rates, delays and fewer jobs.

It is also the consumer who bears the brunt of our second basic problem - the lack of timeliness. Electric power and energy decisions must be made now to determine where we will be 10 years from now. Delay due to the regulatory process, construction cutbacks, or financing problems will significantly affect our ability to adequately meet our future energy needs at the lowest possible cost.

As a nation, we can afford neither unnecessary delay nor excessive uncertainty. We have the capability of ensuring the future generation of electric power in quantities sufficient to meet our needs using domestic fuel resources. And we have the responsibility to develop this capability to its fullest potential.

The focus of our attention today - the regulation of electric power - has a significant impact on our ability to reduce this delay and uncertainty. Regulation does not operate as an isolated, distinct activity. Regulatory decision-making impacts, either adversely or positively, on many important National, State or local policies and goals. For example, consider the relationship between rate-making decisions and fuel choices. Then consider the significance of fuel choice in light of national energy policy and the development of domestic energy sources.

The basic process of regulation is one of balancing and weighing a variety of objectives. The responsibility for this massive task falls heavily upon state regulatory authorities. These groups are faced with complex problems which demand timely, well-reasoned responses. They must deal with a broad spectrum of consumers, utilities and government agencies who want their problems answered and their demand met.

We believe that state regulatory authorities deserve and need increased federal leadership and guidance to assist them

in meeting their expanding responsibilities. I want to emphasize my personal commitment and that of FEA's to help strengthen the role of state regulatory bodies. They have the important decisions to make, they are truly on the front lines, and they should have the support and information necessary to make these decisions.

ADMINISTRATION RECOMMENDATIONS

Before addressing the overall purposes and impact of H. R. 12461 the Electric Utility Rate Reform and Regulatory Improvement Act, let us briefly review what the President has previously proposed. H. R. 12461 embodies a series of general remedies for an undefined problem. It is a complex, unfocused proposal for sweeping regulatory reform. The Administration proposals encompass a larger part of the many inter-related problem areas.

In his 1975 State of the Union Address, the President proposed the Energy Independence Act. Within this Act are two titles, VII and VIII, which deal on a more specific, limited basis with utility regulatory reform and state energy planning. We believe that these two proposals constitute a more effective legislative approach to achieving regulatory improvements that preserve the integrity of state regulation.

The provisions of these two titles are specific reforms which provide the flexibility necessary for each state to respond to the needs and problems of individual situations.

These legislative recommendations are and should be supported with administrative and technical assistance to achieve their focused objectives. Specifically, I am referring to FEA's leadership in the areas of load management, peak load responsibility, and our program of cooperative agreements with state commissions to study these complex subjects.

A brief overview of Titles VII and VIII would be helpful at this point.

Title VII, the Utilities Act of 1975, mandates minimum regulatory standards, but relies heavily on continued vigilance by state regulatory authorities to see that standards are applied effectively and fairly. The Act contains six major provisions.

1. Five-month suspension limitation on proposed rate schedules. After five months from the date of filing, a proposed rate schedule would go into effect on an interim basis until the authority delivers a final order approving or otherwise disposing of the proposed change. No regulatory authority would be required to restrict its hearing and ruling process to a five-month time period. Regulatory authorities would be expected to exercise their full responsibility of review.

2. Automatic Fuel Adjustment Clause. Regulatory authorities may not prohibit, as part of any rate schedule, a fuel adjustment clause that permits monthly changes in a utility's rates to compensate for changes in the cost of fuel to the utility.

3. Removal of Prohibition Against Off-Peak Pricing. Regulatory authorities may not prohibit a utility from charging a lower rate for consumption of electricity during off-peak hours than that charged during on-peak hours.

4. Inclusion of CWIP in the Rate Base. Regulatory authorities may not prohibit the inclusion in a utility's rate base of the cost, to a specified maximum, of construction work in progress.

5. Inclusion of Environmental Control Costs in the Rate Base. Regulatory authorities may not prohibit utilities from including the costs of pollution control equipment in the rate base.

6. Normalization. Regulatory authorities may not prohibit utilities from using a normalization method of accounting with regard to benefits from the investment tax credit and accelerated depreciation.

Title VIII, the Energy Facilities Planning and Development Act of 1975, proposes a three-pronged attack on the problems of providing for energy resource development.

1. The National Energy Siting and Facility Report.

This report would provide an informational framework for local, state, regional and national decision-making on energy problems.

2. State Energy Facility Management Programs.

These programs, to be developed by each state, would provide consistent procedural frameworks for energy planning and development. Federal financial assistance would be provided for the development and implementation of these programs.

3. Streamlined Facility Approval by Federal Agencies

A single application process would be established for the Federal regulatory review process. Applications would have to be reviewed and decided upon within an 18-month period. FEA would supervise the overall approval process.

These two Acts, unlike H. R. 12461, approach the general problems of rate-making and energy planning in a precise, limited manner. We believe that the most effective approach is one which provides leadership and assistance to state authorities without limiting their efforts or actions unduly. Above all, they need flexibility if they are going to be capable of dealing with the complex and dynamic requirements of regulation and planning now and ten years from now.

In addition to these proposals, the President endorsed the recommendation of his Labor-Management Committee by submitting a utility tax reform proposal to assist in the rapid completion of needed coal and nuclear generating facilities. These tax incentives were to be conditional upon two key aspects of regulatory change: construction work in progress in the rate base and normalization of the tax benefits. The key aspects of the proposal are:

1. increase the investment tax credit for generating facilities not fired by oil or gas;
2. allow depreciation to begin during construction for non-gas or non-oil facilities;
3. extend the current amortization provision for pollution control facilities and for the cost of conversion; and
4. permit establishment of stock dividend reinvestment plans.

Once again this proposal focused on specific objectives and did not limit the flexibility of state authorities and impose areas of greater uncertainty.

A different type of financial support is embodied in the Administration's proposed legislation to establish an Energy Independence Authority. Under this proposal potential assistance to utilities is conditional upon the signing of a three-party rate covenant between the utility, its regulatory authority and the EIA. The purpose of this approach is

to:

1. Protect EIA's investment by assuring that utility earnings will be 2.75 times all interest requirements, including interest on EIA loans.
2. Reform state regulatory ratemaking to assure that utility rates are established on a timely basis to provide adequate earnings.
3. Improve bond ratings on existing and future conventional bonds and thus allow for conventional financing in the future.
4. Lower consumer costs over the long term.

In effect, this mechanism would provide a resolution of some of the tough choices facing regulatory authorities such as insuring adequate rates today in return for sufficient levels of lower cost, domestically produced energy tomorrow.

The broad problems of the utilities also encompass many of the uncertainties facing the development of the Nation's coal and nuclear resources. The resolution of surface mining standards and the balancing of air and water quality requirements with other essential national objectives are both prerequisites to coal availability. Passage of the Nuclear Fuels Assurance Act is necessary to provide enriched uranium for the Nation's nuclear programs and is but one aspect of the complex problems surrounding this form of domestic energy development.

H. R. 12461

H. R. 12461 deals with a small part of the world utility problem, and in many aspects this legislation would tend to contribute to increasing the problems rather than resolving them. To begin with, the proposal does not provide the necessary element of flexibility needed in this dynamic regulatory environment. In fact, we believe it may increase complexities and uncertainties and result in higher consumer costs. By their nature, the problems of rate reform and regulatory improvement are nebulous and complex. A sweeping approach which requires mandated solutions for only part of the problem may only serve to exacerbate the situation.

During the next week of hearings, the major areas of concern will be discussed in detail by several FEA witnesses. I would like to limit my discussion today to those areas I consider most significant.

One major issue which this Act presents is the question of whether ratemaking practices should be mandated on a national basis. We believe that this approach puts excessive constraints upon state regulatory authorities. They are required to adopt certain practices, which, although worthwhile in concept, may not be uniformly beneficial in practice -- at least not with our current limited knowledge of the effects.

To illustrate, let's take the concepts of load management and peakload pricing. FEA strongly supports the concept of these two practices and urges their adoption where practicable. However, we have not taken the position that these practices should be adopted and implemented now on a nation-wide basis, without regard to other equally important considerations. Regulatory authorities have to be able to respond to particular problems and individual situations. For example, implementation of load management should take into account the increased need to use coal and nuclear base load plants, rather than rely on the increased use of intermediate or peak gas or oil-fired plants.

H. R. 12461 mandates the implementation of "lifeline" rates, or an alternative means of alleviating the burden to low-income consumers. We are acutely aware of the plight of utility customers. However, we are not convinced that "lifeline" rates are the most effective answer. In fact, there are studies which show that low-income groups are not necessarily the minimum-use electricity consumers. Equating low income to low energy consumption therefore, may not be correct. So, in effect, "lifeline" might be subsidizing middle and high-income consumers who do not need such a subsidy. Such lifeline provisions, therefore, may well not contribute to conservation.

FEA is studying this particular concept and is in the process of funding demonstration projects employing "lifeline" rates. At this time, we would advise against the adoption of such a practice on any wide-spread scale. State regulatory authorities should be free to study and adopt those rate structure concepts best suited to the needs of their particular situation.

There are two other ratemaking concepts which I will briefly discuss leaving the more detailed discussions for later witnesses.

H. R. 12461 provides for automatic adjustment clauses within certain specified limits. FEA generally supports the concept of such clauses and believes that they played an essential role in the period immediately after the Embargo. Many utilities would have suffered financial disaster if they had been unable to recoup rapidly rising fuel costs. However, we realize that automatic adjustment provisions may raise questions which affect other national energy objectives such as fuel mix. We are currently looking into the possible negative effects of automatic adjustment clauses in these areas.

H. R. 12461 also limits the inclusion of construction work in progress in the rate base to a specified percentage and excludes it entirely from bulk power rates. FEA believes that the construction of future facilities (particularly coal and nuclear base load plants) must be planned and financed with far more certainty than is now possible.

Consumers must be assured of a continuing supply of electricity and utilities must be assured that they will be able to meet this future demand.

For these reasons, the inclusion of CWIP should not be arbitrarily limited to a certain percentage, or be contingent on fulfilling other requirements, or be entirely excluded.

I emphasized at the beginning of my statement that state regulatory authorities bear the brunt of ratemaking and planning responsibilities. To meet these responsibilities, they need support and assistance. FEA strongly advocates programs to provide them with the technical assistance they need in specific areas related to National objectives.

However, we do not support the establishment within FEA of a separate office of Electric Utility Ratemaking Assistance. State assistance projects can and are being effectively carried out within the existing FEA structure.

Closely related to the existing approach is our belief that any financial assistance should take the form of grants earmarked for specific, precisely defined purposes. Title VIII of the Energy Independence Act would provide authority for grants to assist states in developing Energy Facility Management Programs. In this way, we would achieve urgently needed state programs and reforms and provide appropriate assistance at the same time.

One of the areas which H. R. 12461 designates for financial assistance is the development of consumer representation programs. Various other parts of the bill deal with the consumer issue in relation to intervention and judicial review processes. Consumer input and participation are necessary and important to any regulatory process. However, we think that current mechanisms for consumer participation are adequate and effective. Improvements should come in the area of assisting the consumer to better understand regulatory procedures.

Legislatively mandated standards in this area would probably increase the confusion of an already complicated process and create more uncertainty and delay.

The final issue that I would like to discuss this afternoon is the concept of long-range energy planning. H. R. 12461 limits its provisions for such planning to bulk power facilities. Title VIII of the Energy Independence Act recognizes the need for overall energy planning which necessarily involves the non-power generation activities of the state, such as transportation, land use and employment.

H. R. 12461 also provides for the establishment of area planning councils for the purpose of regional planning. However, this process appears to be one mainly of compilation and coordination. Under Title VIII of the Administration Bill, states are authorized to enter into compacts with one another in order to develop and implement energy projects. This would seem to be a more effective way of accomplishing regional cooperation and coordination.

CONCLUSION

The subject under discussion today and for the next several days is one of great importance and great complexity. As I have discussed in my statement, there are many aspects of H. R. 12461 with which we disagree and cause us serious concern. In many areas, passage of this bill could lead to greater uncertainty, unnecessary delay and higher energy costs. During the next few days, we will clarify and elaborate on some of these concerns.

FEA recognizes the necessity for electric utility regulatory reform and for further necessity to cooperate with and appropriately encourage state authorities in this regard. We look forward to a continuing dialogue with the Committee and with representatives of the states in order to facilitate these long run objectives.

Flexibility is an essential part of any National objectives: energy, water, and employment, and environment. In light of this significant role, it is imperative that we work together to develop effective programs that meet these needs and energy planning.

Thank you, and I would be pleased to respond to any questions the committee might wish to ask.

FactSheet Energy Conservation Now

Office of Energy Conservation and Environment

Electric Rate Demonstration Program

BACKGROUND

Electric utilities alone account for roughly 26 percent of the Nation's total consumption of fossil fuels. There are substantial energy inefficiencies in this sector, not only in the generation of electricity, but also in its transmission, local distribution and end use. The electric utilities are also experiencing a serious financial crisis resulting from rising costs of generator fuels and deteriorating load factors (average load/peak load). The load factor problem is particularly important because capital requirements are determined by peak loads, whereas revenues are derived from total load. This situation forces utilities to retain older, inefficient generators to meet peak loads, or to acquire relatively inexpensive new peaking generators--typically simple cycle turbines that inefficiently burn scarce fossil fuels.

The Federal Energy Administration is committed to solving this complex problem. On the one hand, we must insure the capability of utilities to supply adequate electricity to the Nation at reasonable prices. On the other hand, we must conserve energy by minimizing the inefficiencies and wastages that occur, not only in the use of generator fuels, but also in the ultimate use of electricity itself. Although in some limited respects these two objectives may conflict, we believe that this is not generally the case and that energy conservation need not complicate, but can actually enhance, the financial situation of utilities.

PROGRAM

The FEA's Office of Energy Conservation and Environment has undertaken nine electric rate demonstration projects, in cooperation with local regulatory commissions, to assess consumer response to innovative rate structures, to validate load management practices and technologies, and to promote electricity conservation. These projects support FEA's utility implementation activity. The projects include experimental peak pricing, lifeline and inverted rate structures, rates approximating long-run incremental costs (LRIC), various load control technologies



Federal Energy
Administration Washington
D.C. 20461

(storage heaters and ripple systems), and conservation activities. The projects are supported by FEA, State and local regulatory agencies, and individual utility systems.

The first such project was funded in October 1974 through the Vermont Public Service Board. Additional proposals were then solicited in January 1975, and of the 34 responses, 8 were selected for funding.

The 9 demonstrations, funded for a total of \$2 million throughout FY 75 and FY 76 are summarized below:

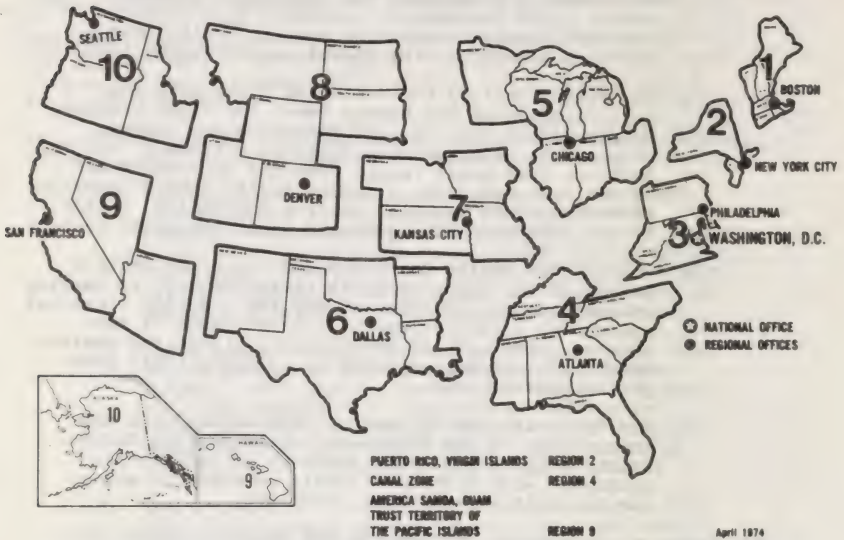
- (1) The Arizona Solar Research Commission, with the participation of the Arizona Public Service Company, will investigate the feasibility of electric rates that vary during the day and between the summer and winter, and devices and communication systems that help the consumer and the utility to manage electric use during times of peak demand.
- (2) The Arkansas Public Service Commission, with the participation of the Arkansas Power and Light Company, will analyze changes in electricity use by 1,000 customers in response to time-of-day rates for the summer peak period, an increased summer/winter rate differential, and increased unit costs of electricity for large consumers.
- (3) The Connecticut Public Utilities Commission, with the participation of the Connecticut Light and Power Company, will conduct a field test of the response of 200 residential customers to rate schedules that change during the course of the day and that approximate LRIC-based rates.
- (4) The Los Angeles Department of Water and Power plans to collect data on changes in the amount of electricity used under a variety of experimental rate schedules by residential, commercial, and industrial customers of one of the largest municipally owned electric utilities.
- (5) The Michigan Public Service Commission, with the participation of the Detroit Edison Company, will disseminate energy conservation literature to small industrial customers, provide technical assistance to these customers for implementing energy management programs, and measure the impact on their electric energy use.

- (6) The New Jersey Department of Public Utilities, with the participation of Jersey Central Power and Light, will measure the reaction of approximately 1,000 residential customers to a time-of-day rate structure and will conduct a pilot demonstration of electricity demand control technology.
- (7) The Public Utility Commission of Ohio, with the participation of the Dayton Power and Light Company, Toledo Edison Company, and Buckeye Power Company, proposes to investigate changes in customers' use patterns that would result from the implementation of new rate schedules and electricity demand-deferring technology--for example, utility-controlled, selectively interruptible, electric water and space heaters.
- (8) The Vermont Public Service Board, with the participation of the Green Mountain Power Company, is testing general customer acceptance and the load and financial management effectiveness of a broad range of rate designs, load control systems, and signalling devices, which will assist customers in reducing their peak period electric use.
- (9) The Wisconsin Public Service Commission, with the cooperation of the Wisconsin Public Service Corporation, will evaluate the response of residential customers with different levels of electric energy use to a time-of-day rate structure.

For further information, contact the FEA Regional Office in your area (see last page for addresses), or the Assistant Administrator for Energy Conservation and Environment, Federal Energy Administration, Washington, D.C. 20461

October 1975

FEDERAL ENERGY ADMINISTRATION - REGIONS



April 1974

Federal Energy Administration
150 Causeway Street
Room 700
Boston, Massachusetts 02114

Federal Energy Administration
26 Federal Plaza
Room 3206
New York, New York 10007

Federal Energy Administration
1421 Cherry Street
Room 1001
Philadelphia, Pennsylvania 19102

Federal Energy Administration
1655 Peachtree Street, N.E.
Eighth Floor
Atlanta, Georgia 30309

Federal Energy Administration
175 West Jackson Boulevard
Third Floor
Chicago, Illinois 60604

Federal Energy Administration
P.O. Box 35228
2626 Mockingbird Lane West
Dallas, Texas 75235

Federal Energy Administration
P.O. Box 2208
112 East 12th Street
Kansas City, Missouri 64142

Federal Energy Administration
P.O. Box 26247 - Belmar Branch
1075 South Yukon Street
Lakewood, Colorado 80226

Federal Energy Administration
111 Pine Street
Third Floor
San Francisco, California 94111

Federal Energy Administration
1992 Federal Building
915 Second Avenue
Seattle, Washington 98174

PANEL ON "LIFELINE" RATE PROPOSALS

Statements of: Dr. Eugene Coyle
The Honorable Clifford Allen
Dr. James Marchand
Herbert B. Cohn
Dr. Joe D. Pace
Dr. Jay B. Kennedy

THE HISTORY OF THE UNITED STATES

The history of the United States is a story of growth and change. From the first settlers to the present day, the nation has evolved through various stages of development. The early years were marked by exploration and settlement, followed by a period of rapid expansion and industrialization. The American Revolution and the Civil War were pivotal moments in the nation's history, shaping its identity and values. The 20th century brought significant social and political changes, including the rise of the federal government and the struggle for civil rights. Today, the United States continues to face new challenges and opportunities, reflecting its ongoing journey as a nation.

1. The early years of settlement and exploration.	2. The American Revolution and the founding of the nation.
3. The period of rapid expansion and industrialization.	4. The Civil War and the struggle for civil rights.
5. The 20th century and the rise of the federal government.	6. The social and political changes of the 20th century.
7. The challenges and opportunities of the present day.	8. The ongoing journey of the United States as a nation.

Statement of Dr. Eugene P. Coyle

Introduction

Lifeline electric utility rates are a necessary part of a cost-justified, economically sound response to the energy/inflation crisis that has struck the nation's electric utilities.

The opponents of this rate structure reform, mainly the industrial customers and the utilities themselves, have sought to keep the debate on the subject of how a welfare measure ought to be financed.

The discussion ought not to be carried out in those terms, but rather ought to focus on the economics of the industry and the costs involved in serving customers. When viewed in this framework it turns out that Lifeline under today's conditions is justified on a cost basis and the current but dying practice of charging higher prices to small users turns out to be a marketing strategy rather than cost justified.

The introduction of the Lifeline pricing concept will not only assist the small consumer but will also improve the financial health of the utilities themselves, as the corrected rate structure will mean that growth in sales will take place at prices that fully compensate the utilities. The third beneficiary of this reform will be the environment, as the promotional practices of the past are ended. These promotional practices led to the production of "too much" electricity.

By "too much" here, I don't introduce a value judgement of my own but rather mean that in the past the utilities twisted the rate structures to induce more consumption than would have

occurred if the prices were not being managed by the utilities to enhance their own growth and stock market value.

I will show today how getting the rates to reflect the correct economic pricing principles results in the Lifeline rate structure. I will discuss four things: First, the correct principles of pricing electricity. Second, how the self-interest of the utility companies is inconsistent with the public interest in rate structure reform. Third, a brief discussion of the costs involved in serving different customers, and fourth, how Lifeline fits in with economically sound rate reform.

The Economics of Pricing Electricity

This is not the place for a textbook discussion of utility pricing principles, but a number of points must be made to demonstrate how Lifeline is cost justified, as distinct from a socially desirable but subsidized rate reform adjustment.

Prices for electric utility service ought to be based on Long Run Incremental Cost (LRIC). By Long Run Incremental Cost I mean the cost of building and operating the plant to supply increments to output--i.e., additional kilowatt hours of electricity.

This is the appropriate cost to be used in designing the rate structure since the rates charged will play a major part in determining what increments must be added to supply over time.

Long Run Incremental Cost pricing has been the economic justification in the past for the declining block rate

requirements, but are not correct to use in the design of the rate structure.. For prices to play their rationing role, the prices in the tailblocks (the prices customers face in making their decisions about using less or more electricity) must reflect incremental costs, not the rolled-in, average costs.

If we make the mistake of using average costs we will be pricing increments of output below what it costs to supply increments of output. Customers will get the signal through their tailblock rates that electricity costs less than it really costs the company to produce it and will buy "too much" in the economic sense.

It seems very likely that the long-run cost of supplying electricity will continue to rise in the United States. This will require that eventually electric utility rate structures nationwide will be inverted to accomplish two things: First, to set the price of electricity at a level which will give the correct economic signal to consumers, so that the "correct" amount will be demanded.

Second, moving to a rate structure that reflects long-run incremental costs will protect the electric companies and the electric utility industry as a whole from steady attrition of rate of return. Pricing electric power at its average cost of production while producing increments of supply at the higher incremental cost will continually erode utility earnings. Unless this is corrected by rejecting the declining block rate design and adopting the one I suggest, utilities will face the

prospect of falling rate of return, an endless series of rate increase applications, and growing investor disenchantment.

Not only are customer equity and the environment served by the rate design proposed here, so also are the viability of the companies and industry.

The Self Interest of the Utilities

The problem with leaving to the management of the utility the decision as to a specific rate structure is that frequently the inherent earning power of the company is so strong that it will be able to earn the number of dollars permitted with a variety of rate structures. Since the company can earn no more dollars than the regulators have specified by establishing the rate of return and the size of the rate base, the skill of the management is devoted to developing the particular rate structure that will best serve the long-term interests of the company and its stockholders -- with little interest given to the fairness of the rates to various classes of customers or to the effect on the environment. This is as it should be given the system which charges management with just this motive and responsibility.

The long-run profit maximization of a utility company demands that the specific rate structure that it chooses will be dominated by the desire for the growth of the company. Since the utility is able to raise the dollars it requires by charging a variety of rates, it endeavors to choose that particular set of rates that will enhance its growth while maintaining safety.

high prices will get high prices. Customers who can cut back on usage when faced with higher prices and who will step up usage when offered lower prices will get lower prices. This is how the utility can promote growth through the price structure and is what I referred to earlier as "twisting the rate structure."

There is another aspect to this motivation for twisting the rate structure beyond simple-minded desire for growth, and that is this: If a utility is growing, the faster the rate of growth of assets the more rapidly capital must be raised on the market. The faster the attempted absorption of new capital, the higher the rate of return the investors demand, other things being equal. So although a higher rate of growth will result in a higher price for shares on the market, it must also be accompanied by the rate of return demanded by investors for supplying funds to the utility. The utility therefore seeks from the regulators the highest rate of return it can obtain, so as to be able to finance the rapid rate of growth.

But a problem is thus created, in the solution of which the rate structure comes to the fore. For earning a high rate of return on assets (assuming the regulators have been persuaded to authorize the high rate of return) requires that prices be raised relative to the existing prices which were producing a lower rate of return on the same assets. The problem is this: Higher prices will, other things being equal, cut into the growth in demand for the utility service. Now the utility is in the position of having a high rate of return

with which to rapidly attract capital and (because of price increases) a slower rate of growth for the service so that capital need not be attracted so rapidly. The solution of the problem lies in part in the rate structure: If rates can be structured in such a way that the high rate of return can be earned, while at the same time prices in the growth markets for the utility service can be kept attractively low to the customers, then the utility will be able to add to assets rapidly, secure the financing for the investment program in the capital market, and fully employ the assets in the production of a growing amount of the service.

So, in designing rates the regulators must keep in mind that they themselves play an important role in determining how fast the company will grow. This cuts to the heart of the environmental considerations that all of us are aware of. And it must be considered as a factor in establishing a rate design.

The wealth of the owners of the utility's shares is raised by raising the growth rate of the company. As we saw before, the utility can earn only the number of dollars in profits that results from the rate base and rate of return that the regulatory commission allows. But if it can get these dollars from a variety of rate schedules, then it will choose that rate schedule which will promote growth. The way to do this is to assign costs to the small user and to leave the follow-on blocks free of all capital and other fixed costs.

To put it another way, the customer with price-inelastic demand is subsidizing the customer with price-elastic demand.

with which to rapidly attract capital and (because of price increases) a slower rate of growth for the service so that capital need not be attracted so rapidly. The solution of the problem lies in part in the rate structure: If rates can be structured in such a way that the high rate of return can be earned, while at the same time prices in the growth markets for the utility service can be kept attractively low to the customers, then the utility will be able to add to assets rapidly, secure the financing for the investment program in the capital market, and fully employ the assets in the production of a growing amount of the service.

So, in designing rates the regulators must keep in mind that they themselves play an important role in determining how fast the company will grow. This cuts to the heart of the environmental considerations that all of us are aware of. And it must be considered as a factor in establishing a rate design.

The wealth of the owners of the utility's shares is raised by raising the growth rate of the company. As we saw before, the utility can earn only the number of dollars in profits that results from the rate base and rate of return that the regulatory commission allows. But if it can get these dollars from a variety of rate schedules, then it will choose that rate schedule which will promote growth. The way to do this is to assign costs to the small user and to leave the follow-on blocks free of all capital and other fixed costs.

To put it another way, the customer with price-inelastic demand is subsidizing the customer with price-elastic demand.

If we didn't already know that utilities had declining block rate structures within customer classes, and lower rates in general for larger customers, we could have inferred this rate structure by knowing the motivation of the company.

A basic objective of a profit making business of any sort is to prosper and to grow. I want to emphasize the growth aspect, because as you are all well aware, it is the growth stocks on Wall Street that are the high flyers. When utilities develop their price structures, they are very much aware of the role the structures play in their opportunities for growth and, therefore, the price of their stock. A manufacturing company can develop new products, penetrate new markets, expand overseas. But the typical utility is locked into a service territory and must have growth in sales of its basic utility services, be they gas, electric, or telephone.

The utilities, therefore, want to develop a price structure that serves their corporate interest -- which at this time is certainly not coincident with the public interest. The public will get more growth than it wants with demand being unduly promoted by rates kept very low to those customers who will buy more power.

Utilities, if we let them, will push price structures on the basis of the value of service rather than the cost of service. Customers with inelastic demand will get high prices and customers with elastic demand will face low prices. To translate the jargon: Customers who have a strong need for a certain amount of electricity and whose use will not be cut by

The small residential user of a utility service is using the minimum possible to meet what are regarded in our society as the necessities of life: for example, minimum lighting, radio, and television use, etc.; for gas consumption, cooking and keeping the small home at a level of climate comfort. If prices are raised to this customer, either absolutely or relatively, usage cannot be curtailed much, if at all, so the utility's revenues rise by the amount of the price increase times the amount of usage. Now if this extra revenue received by the utility is used to reduce prices to another customer (the utility can't keep it as monopoly profits, remember, because it is regulated as a natural monopoly), if that other customer will use more, then the utility has taken money from the customer with inelastic demand and used it to supply service below cost to another customer who will increase usage if price is reduced. This is precisely what we would infer as pricing behavior of the utility motivated in the way we have assumed. It is, furthermore, pricing behavior that is solidly established empirically in the electric and telephone and other utility industries, and in fact even encouraged in the past by certain state utility commissions.

The Question of Costs

The declining block rate structure and discrimination between customer classes are putatively based on costs. That is, the companies don't come forward in a rate case and say, "We want to extract as many dollars from each customer as we can, and we want to subsidize the growing user at the expense

of the smaller one, so that our own sales will grow and our stock price will go up." Rather, they come forward with elaborate cost justification showing that the rates reflect the cost of serving each customer. They even put in their advertisements statements about how serving thousands of residential customers is as costly as serving one large customer.

The problem with dealing with these sorts of assertions is that different customers share the use of the utility plant, and that shared use has to be allocated to customer classes. The method of sharing is subject to debate but over the years certain principles have emerged. First, costs are split into three types, (1) "capacity costs", which are the costs involved in owning the plant whether or not it is used at all -- perhaps "fixed costs" is a more familiar name for these; (2) "energy costs", which are the costs associated with actually producing energy for the customers -- and here fuel costs are an example; (3) "customer costs" -- costs which vary with the number of customers -- such as meter reading, billing, owning the meter, and so on. It is this last category that makes the utilities' advertisements about the cost of serving thousands of small customers being the same as one large customer intuitively plausible to the general public.

But a careful examination of the costs of utilities here in California and several other states reveals that the utilities throw everything they can into the category of customer costs. In fact, they throw in almost the entire Distribution System -- which in fact serves the industrial customers, the

shopping centers, the large supermarkets, etc. After throwing what are capacity costs in with customer costs, the utilities then go on to claim that this major portion of costs is to be allocated to residential customers. They, therefore, have a cost justification for what they wanted to do in the first place, charge small customers high prices to subsidize large customers.

One final separate point should be made in regard to costs. That is that, even if large customers are cheaper to serve than smaller ones, this by itself was not a justification for the declining block rate schedule. It simply justifies a lower rate level for one customer class as opposed to another.

Within customer classes, the placing of "costs" up front in the rate schedules is simply a marketing strategy, not cost justified in the economic sense. When we go to the supermarket we are not asked to pay an admission fee or "customer charge" to cover part of the overhead. The overhead costs are spread in a variety of ways in the unit prices of different products, reflecting that industry's own profit making strategy.

Because of the monopoly situation of an electric utility it has been good strategy to price with an admission fee in the form of a customer charge.

If the electric utility industry weren't a monopoly we might find it anxious to serve small customers at low prices, because small customers grow later into large customers. If there were a competing service, electric utilities might offer low prices to small customers to hook them on the product. We

can find evidence of this strategy in other American industries. Razor blade manufacturers, for example, might offer a free or cheap razor to a customer so the customer will be able to utilize the particular blade design offered. The company will make up the cost of the razor on subsequent blade sales. If the electric companies were to follow a similar strategy they might offer promotional inducements like free underground wiring so that the customer would be induced to become a permanent user of the service. But because of the monopoly position of the electric power industry the reverse marketing strategy appears to be the most attractive: Put high prices up front for the small users and keep prices lower for the larger ones.

The Economic Necessity of Lifeline Rates

I discussed earlier the economic concept of pricing at long-run incremental cost (LRIC). In order to price the terminal blocks at LRIC, which is the correct economic price for reasons I went into earlier, it is both necessary and desirable to have the first block of the residential rate structure provide for what is called the "Lifeline."

Lifeline is necessary because if we move to LRIC pricing, selling all kilowatt hours at full LRIC would provide a windfall to the utility company. This occurs when incremental costs are higher than average costs, as they are under current economic conditions. The correct way to prevent windfall profits from occurring in this situation is to price the terminal blocks at LRIC and then offset the revenue collection with lower prices in the initial or Lifeline block of use.

"Lifeline pricing" is therefore a necessary part of LRIC pricing. The reason for different prices along the rate schedule (the reason for Lifeline in this case) is the reason for regulation itself. In an unregulated industry the price for all units of output would be at LRIC (provided the market would bear it) and a firm with some lower cost supply would earn a windfall profit. If the units could not be sold at the LRIC then plant and supply would not be expanded at that cost. In a regulated industry, where entry of new firms is not permitted, one task of regulation is to prevent windfall profits. The way to handle this task is to use the LRIC in the terminal block to give customers the correct economic signal about the future course of prices and then, through regulation, design the rate structure so that the utility gets the correct revenue.

Although I have frequently used the term "Lifeline" earlier in my testimony, and it is a well-known concept, perhaps I should explain Lifeline here. The idea is that the residential consumer should be able to purchase the basic necessities of modern life at a price that puts these within reach of all. Although a primary purpose of the Lifeline rate is to provide service within the budget of low-income people such as aged persons living on small incomes, the Lifeline rate should apply to all residential customers regardless of income. It assures careful, conservation-conscious small users that they will be able to afford necessitous service.

The consumption of electricity is so pervasive in our lives that it cannot be treated like other commodities, the consumption

of which can be cut back when prices for individual products rise sharply. The low-income person (along with the rest of the population) virtually must use electricity, however little, just to remain alive in a decent state.

The experience of the recent past shows that conservation of electricity is possible. In this culture, at this time, however, there is a level of basic necessitous service that living with dignity requires. To put this into the jargon of the economist is to say that for the basic necessities the demand is inelastic. The utilities have long recognized this and twisted their rate structures accordingly. It is time for the regulators to recognize it and prevent abuse of this inelasticity. The way to do this is to establish a Lifeline block in the residential rate structure.

The establishment of a Lifeline block will also have beneficial effects of energy conservation. People in the utility industry and regulators are aware of rate design but consumers in general are innocent of knowledge in this area. They are unknowledgeable, that is, except for what they have learned over the past couple of years, that "the more you use the cheaper it gets." If a Lifeline rate block were established and publicized, consumers would become more aware of their kilowatt hour usage. With general publication of the fact that price per unit will rise after the Lifeline block, consumers would be consciously attempting to reduce usage to stay within the low-price block. The simplicity of the Lifeline block would make consumer education easy and effective.

With inverted rates, furthermore, the consumer practicing conservation will be rewarded with a lower electric bill and lower per unit prices as he moves back along the rate schedule toward lower consumption.

STATEMENT OF
REPRESENTATIVE CLIFFORD ALLEN
BEFORE THE ENERGY AND POWER SUBCOMMITTEE
HOUSE INTERSTATE AND FOREIGN COMMERCE COMMITTEE

April 1, 1976

Thank you, Mr. Chairman.

I come here today to offer an amendment to H.R. 12461 entitled the "Electric Utility Rate Reform and Regulatory Improvement Act."

I offer this amendment to Section 203(a) (3), which is a provision more commonly known as a "lifeline rate" concept. In fact, this proposed amendment is the outgrowth of considerable study by my staff into one of the most urgent and serious problems that face the American consumer today. As this honorable committee is by now well aware, there is considerable legislation introduced concerning the extremely high cost of electricity.

Power rates have come under penetrating scrutiny, as well they should. Literally, I have received thousands and thousands of letters, petitions and communications concerning the devastating effect of the spiraling and outrageously high electric bills, which are siphoning off a greater and greater portion of family incomes.

I am sure that your offices have been flooded with similar protests and pleas for help. Here, for example, is a petition delivered to Mr. Charles Friddell, just this Monday, by citizens from a county outside of my District, containing over a thousand signatures of people pleading to this Congress for relief from these outrageously high electric bills.

Nothing illustrates this problem more graphically than an article that appeared in a recent edition of the Nashville Tennessean, showing a picture of a woman who receives a Social Security check on which she must live of only \$185, and whose electric bill this past month was \$106--almost three-fifths of her Social Security check going to pay her electric bill!

To respond to this problem, I introduced H.R. 11449, entitled the "Lifeline Rate Act of 1976," which would require all distributors of electricity to reduce their rates for residential users, including farmers, for a subsistence quantity of electricity to a level no higher than the lowest rate they charge their most favored customers or class of customers. To date, 65 members of the House (see attached) have joined me as cosponsors of a bill to provide lifeline rates. This list of sponsors and cosponsors includes such Democratic leaders as the Honorable John J. McFall, Democratic Whip; the Honorable Phillip Burton, Chairman of the Democratic Caucus; and the Honorable Harley O. Staggers, Chairman of the full Commerce Committee. Four other members of the full Committee, Messrs. Ralph H. Metcalfe, Richard L. Ottinger, James S. Scheuer, and Henry A. Waxman, have graciously asked to be associated as cosponsors.

Identical legislation has been introduced by Senator Howard Baker in the Senate and by Representatives John Duncan and James H. Quillen, my distinguished Republican colleagues from Tennessee. And a lifeline provision is included in the bill presently under consideration.

Gentlemen, we must take prompt and immediate action to alleviate this problem and to provide the necessary relief to the residential consumers.

The rate schedules and charges made for electricity by utilities in both the public and private sector, including the TVA and all of its 160 distributors, are completely outdated and badly need to be changed and restructured, from top to bottom.

At a time when sources of energy are in short supply, and when the policy adopted and announced by the President of the United States and the Congress is to encourage every patriotic citizen to economize and use all sources of energy more wisely and prudently, the current policy/Is calculated to encourage not less, ^{of the utilities} but greater and greater use and consumption of electrical power, by reducing the price and the rates that are charged, the MORE electricity a customer uses.

For example, in the area served by the Nashville Electric Service, in June of last year, the rates dictated by TVA which NES was required to charge were, as follows:

RESIDENTIAL USERS

4.327 cents for each of the first 75 KWH used
 3.277 cents for each of the next 150 KWH used
 2.247 cents for each of the next 275 KWH used
 1.927 cents each for all KWH used above 500

This means that the first 500 KWH consumed by any residential user cost \$14.37, while the rate charged for the next 500 KWH used is \$9.64.

The same incentive to use a greater amount of electricity, rather than to conserve and economize, is reflected in the following rate schedules for both small and large commercial users and large industrial plants:

SMALL COMMERCIAL C-3

First 100 KWH @ 4.585 cents for KWH used
 Next 400 KWH @ 3.385 cents for KWH used
 Next 500 KWH @ 2.445 cents for KWH used

LARGE COMMERCIAL USERS WITH 50 KW DEMAND

First 15,000 KWH @ 1.820 cents for KWH used
 Next 25,000 KWH @ 1.590 cents for KWH used
 Next 60,000 KWH @ 1.420 cents for KWH used
 Next 400,000 KWH @ 1.310 cents for KWH used
 All over 500,000 KWH @ 1.290 cents for KWH used

EXTRA LARGE INDUSTRIAL USERS

First 20 million KWH @ 1.265 cents for KWH used
 Next 30 million KWH @ 1.234 cents for KWH used
 All above 50 million KWH @ 1.229 cents for KWH used

Nothing so dramatizes the discrimination being practiced against not only residential users, farmers and others living in the rural areas, but also small commercial users and light industries as these rate schedules.

Mr. Charles Friddell, Attorney and Certified Public Accountant, who is with me here today, will verify that he personally checked the record of charges made to Ford Motor Company and to Du Pont, both multi-million dollar industries owned by multi-billion dollar corporations, and located in Nashville, showing that

Du Pont paid only \$8.78 per 1,000 KWH of electricity it used, and Ford Motor Company paid only \$8.85 -- both less than the average cost of power from TVA to its distributor, the Nashville Electric Service, before adding anything at all for administration and operating expenses.

The record shows that for the month of May, 1975, for example, all homeowners paid Nashville Electric Service \$20.10 for the first 1,000 KWH used.

Light industry, such as Eller & Olsen Stone Company, paid \$31.55 per 1,000 KWH. The average cost of electricity furnished to its distributor by TVA during the same month was \$13.40 per 1,000 KWH.

But Du Pont, a giant industry owned by one of the largest industrial corporations in the United States, was charged only \$12.95 per 1,000 KWH, or 45 cents less than the average cost charged Nashville Electric Service by TVA for the same month; -- and this kind of discrimination continues to this date.

And gentlemen, they can try to explain it -- and talk until they are blue in the face -- they will never convince me that the homeowners, the small commercial and light industrial users are not being ripped-off, and being required to pay more than their share, in order to subsidize and help pay the electric bills of these multi-million dollar industries.

I have heard, of course, the feeble attempts to justify this kind of unfair discrimination. They say that a utility lowers its rates, step by step, the more electrical power a customer uses. But why should only the giant, multi-million dollar industries get the benefit of the lowest rates, and be permitted to skim the cream off the top?

I remember, not too many years ago, when milk was delivered in glass bottles, and all the cream was on the top. Thus, the first member of a family who opened the bottle, if he was so inconsiderate and selfish, could pour off the cream for himself, and leave only blue john for others in the family.

However, milk is now homogenized and sold in cartons, and everyone who pours himself a glass out of a carton, whether the first or the last, gets the same quality of milk, with the same amount of cream which is equally distributed.

There is no reason why customers of power companies -- whether they be among the giant industries, light industries, commercial users, farmers or residential users -- including even those -- and especially those -- in the lowest income brackets, should not enjoy rates based on the average cost, repeat, "AVERAGE COST" which a utility or distributor charges its most favored class of customers.

I am not suggesting that we gouge the big industrial users. I am simply recommending that they be required to pay their fair share -- based on the average cost which private and public utilities, including TVA, charge local distributors, plus a reasonable margin to cover interest on capital invested and bonded indebtedness, cost of distribution, and other expenses incurred by the local distributors in order to supply electricity to their customers.

The amendment that I propose is to correct this kind of upside-down rate policy and to provide a more equitable rate structure for the residential consumer.

It provides, as does your present provision, that a subsistence quantity of electricity be supplied and sold to the residential consumers at the lowest rates charged by a utility to any class of its customers. However, the definition of "subsistence quantity" is changed to allow for additional end uses of electric power.

At present, Section 203 (a) (3) (B) provides only for domestic lighting and food refrigeration. This will account for only a meager amount, a very small percentage, of the total electricity consumed by the residential user. It would afford no relief for those who utilize electricity for heating and cooling, cooking and water heating, and other normal household uses, all of which are basic necessities and require the lion's share of electric consumption by such residential consumers.

One basic objection to the present bill and other so-called Lifeline Rate Acts is the administrative and regulatory determination and application of what quantity of electric power is a "subsistence quantity" of electricity. In the amendment I now propose, I have omitted "end-use criteria" and purposes of use and have chosen, instead, the criteria of average monthly consumption by residential users in each area, based upon historical data which is readily available to the utilities and indirectly to the regulatory agencies.

By choosing the criteria of average consumption, I have provided for certainty and ease in implementing such a rate policy and promoted a general understanding by all concerned. It would save in regulatory costs by allowing an easily accessible and defined criteria for the subsistence quantity and thus save the increased costs to all consumers by any extended and costly regulatory proceedings.

We have drafted this amendment to take effect 90 days after passage. The "subsistence quantity" is well-defined and this lifeline amendment can be easily implemented without extended regulatory lag-time. This eliminates entirely what has been described by the utility industry commentators as "an administrative nightmare" concerning the present attempts by the California Public Utilities Commission and the electric utilities in that state to implement and apply California's new "lifeline" law.

In addition to the previous provisions within the amendment, I am proposing that the amount of electricity consumed by any residential user in excess of the subsistence quantity be made available to and sold to such residential users at a rate no higher than the AVERAGE rate per kilowatt-hour charged industrial customers or any other class of customers. This proposition would place a ceiling on the residential rates charged, and serve to alleviate the present discriminatory rate structures throughout the industry.

By providing higher rates for residential users over the subsistence quantity, the purpose of this bill to furnish an economic incentive for the conservation of electric energy by residential users would not be eroded. Residential users would know that should they go above their "subsistence quantity" or the average consumption by other residential users, they will incur increased costs per kilowatt-hour. This would serve as a disincentive to wasteful use of electricity. Its effect would reverse the common practice of today, where the more electricity a consumer uses, the lower the rate becomes per kilowatt-hour.

It seems to me that the consumer who is not wasteful in the use of electricity, but who patriotically seeks to conserve in the use of all forms of energy, should be rewarded by having to pay the least amount per kilowatt-hour. This is what this amendment would accomplish.

There are many people on limited incomes and millions of others who, in keeping with the national policy of conserving energy, are very careful and frugal in their use of electricity. Yet they are the ones who today are paying the highest rate, while large industries and other big users, including those residential customers who waste and use more electricity than is really necessary, are rewarded by a lower rate, the more electricity they use. This is simply not right.

Quantity discounts to promote sales may have been justified at a time of surplus, when there apparently was an inexhaustible supply of energy, worldwide. But, at a time of shortage, it is both foolish and utterly indefensible when everyone else is being asked to save and to cut back on their use of all forms of energy.

There are those who will say that it costs more to service a number of little accounts than it does one big account. Our answer is simple and straight to the point: telephone companies are required to do as much, indeed, much more, than this amendment would require of electric utilities and distributors.

In all 50 States, a straight line residential telephone costs only a fraction of what a single, straight line telephone costs even the smallest business. Let me add that telephone companies are also public utilities and are regulated in the rates they may charge by State public service commissions, as well as the FCC. So why should an electric distributor of any other public utility be made an exception?

So, gentlemen, while I am plainly seeking a way to bring relief to millions of residential users whose outrageous electric bills are now consuming far too large a portion of their paychecks or Social Security payments, it is not my intention to offer a welfare bill. It is simply my intention to end the present unfair discrimination, in the name of simple justice.

At present, the figures I have furnished plainly show that residential consumers, small commercial and light industrial users are subsidizing the giant industries in their use of electrical power. This is simply not right. Furthermore, I would call to your attention that both industrial and commercial users of electricity are able to pass on their utility costs to their customers. In addition, any industry or other business may recapture a major part of their electric bills by charging them off as expenses on their income tax returns. The residential consumers can do neither. They can't pass on their bills to anyone -- and they certainly cannot recapture or charge off any part of their electric bills on their income tax returns.

To those who say that if commercial and industrial charges should increase, the consumer would simply pay more, I would point out that if one were to carry this kind of logic to its ultimate conclusion, one might argue that industrial and commercial users should be furnished electricity at no charge whatever. But who would pick up the tab? The other users, of course.

I hope that this Committee will want finally to bring some justice to the residential users who have for so long been furnishing an unwilling subsidy to business and industry, and yet who have nowhere to pass on this burden.

All across the country today, citizens are protesting this kind of upside-down rate policy and rip-off by the giant utilities, and they are looking to this Congress for relief. The time has come to outlaw these confiscatory residential rates, nationwide. Americans must have electricity made available to them at rates they can afford to pay.

Surely electricity to a poor widow should be at least as cheap as it is to a giant industry.

AMENDMENT OFFERED BY
 REP. CLIFFORD ALLEN (D.-TENN.)

to

H.R. 12461, entitled

"ELECTRIC UTILITY RATE REFORM AND REGULATORY IMPROVEMENT ACT."

Title 11, entitled "Utility Rate Reform", Section 203 (a), of the Electric Utility Rate Reform and Regulatory Improvement Act, is amended by deleting all language beginning with line 10, page 11, and continuing through line 15, page 12, and substituting therefor the following provision:

(3) (A) Notwithstanding any other provision of this Act, beginning not later than ninety (90) days after this Act becomes effective, each electric utility and/or retail distributor of electricity shall provide for a rate under which the charge per kilowatt-hour at any time of use (including any customer charges) to a residential electric consumer for a subsistence quantity of electric energy in any month (or applicable billing period) for such consumer's principal place of residence does not exceed the lowest rate charged per kilowatt-hour at such time of use (excluding demand, capacity, and customer-charges) to any other private electric consumer to whom electric energy is sold by such electric utility or distributor.

(B) For purposes of this paragraph, the term "subsistence quantity" means a number of kilowatt-hours of electricity which the State or other regulatory authority determines (or, in the absence of any such regulatory authority, can be shown from the records of such utility or distributor) to be at least equal to the average number of kilowatt-hours of electricity consumed by residential users, both urban and rural, in the area served by

each such utility or retail distributor, during the corresponding month or billing period of the preceding year, or the average consumption of such residential users for such month or billing period during the preceding five (5) years, whichever is more. If, within any such area served by a utility or distributor, there is a significant difference of seasonal or climatic conditions affecting consumption, said area may be subdivided for the purpose of determining the average number of kilowatt-hours of electricity consumed by residential users in each such subdivided area, such determinations to be made by, and/or subject to the approval of, the regulatory authority having jurisdiction over such utility or distributor.

(C) No provision of this title shall prevent an electric utility or distributor from increasing the kilowatt-hours of the subsistence quantity prescribed in this paragraph.

(D) Any amount of electricity consumed by any residential users in excess of said subsistence quantity shall be made available to and sold to such residential users at a rate no higher than the average rate per kilowatt-hour charged by said electric utility or retail distributor to its industrial customers.

Offered by Congressman Clifford Allen April 1, 1976 before
the Subcommittee on Energy and Power of the Committee on
Interstate and Foreign Commerce

TVA On Defensive

Electric Rate Structure Hit

By KEEL HUNT
Tennessean Staff Writer

KNOXVILLE — A top-level official in the Tennessee Valley Authority appeared on a local television newscast tonight to explain again why electric rates are as high as they are these days.

When he got home later that evening, he was told he received the most colorful letter he had ever received. The letter read: "They are even more stupid than I thought they were."

That was the first of four front-page, sensational headlines in the Tennesseean last night.

The story accused an independent agency, the TVA, long known for its power, of being "stupid" for making a bad job of rate-making. It said the TVA's rate structure is "ridiculous" and "unfair."

The article also said the TVA's rate structure is "unfair" to the people of the state. It said the TVA's rate structure is "unfair" to the people of the state.

Ten years ago when TVA rates were still actually decreasing at a modest rate, virtually no one in the region questioned the way the agency calculated its consumer rates.

But in 1960, the office of the TVA, which began to work on the rates, was hit by a flood of letters from angry ratepayers.

The TVA's rates, it was said, were "unfair" and "unjust." The TVA's rates, it was said, were "unfair" and "unjust."

Both bills include some provisions for one of the most controversial proposals—the "lifeline" rate system—which was also formally proposed to the TVA board here Thursday by the consumer-oriented East Tennessee Regional Council.

Both bills include some provisions for one of the most controversial proposals—the "lifeline" rate system—which was also formally proposed to the TVA board here Thursday by the consumer-oriented East Tennessee Regional Council.

Both bills include some provisions for one of the most controversial proposals—the "lifeline" rate system—which was also formally proposed to the TVA board here Thursday by the consumer-oriented East Tennessee Regional Council.



Soc. Sec. check—\$185
Electric Bill—\$106
Could you manage, Aubrey?

KNOXVILLE (Trib. 12, 1976) — Flossie Bank of Caryville displays a sign at the meeting of the TVA Board of Directors to dramatize her plight in the face of rising electric bills. There has been growing criticism of the TVA rate structure which is said to be overvalued.

List of Co-Sponsors for Congressman Clifford Allen's "LIFELINE RATE ACT"
(H.R. 11449)

As of April 1, 1976

- JOHN J. McFALL (Calif.), Democratic Majority Whip; Chmn., Transportation Subcom., Appropriations Committee
- PHILLIP BURTON (Calif.), Chmn., House Democratic Caucus; Chmn., Territorial and Insular Subcom., Interior and Insular Affairs Committee
- HARLEY O. STAGGERS (W. Va.), Chmn., Interstate and Foreign Commerce Committee (to whom the bill has been referred)
- HENRY S. REUSS (Wisc.), Chmn., Banking, Currency and Housing Committee
- WAYNE L. HAYS (Ohio), Chmn., House Administration Committee; Chmn., International Operations Subcom., International Relations Committee; Chmn., Democratic National Congressional Committee
- JOE L. EVINS (Tenn.), Chmn., Small Business Committee; Chmn., Public Works Subcom., Appropriations Committee; Dean of Tennessee Delegation
- LEONOR K. SULLIVAN (Mo.), Chmn., Merchant Marine and Fisheries Committee
- WRIGHT PATMAN (Texas) (since deceased), Chmn., Joint Committee on Defense Production; Chmn., Domestic Monetary Policy Subcom., Banking, Currency and Housing Committee
- RICHARD L. OTTINGER (N.Y.), Chmn., Environmental Study Conference
- ED JONES (Tenn.), Chmn., Parking Subcom., House Administration Committee; Chmn., Dairy and Poultry Subcom., Agriculture Committee
- JOHN CONYERS, JR. (Mich.), Chmn., Crime Subcom., Judiciary Committee
- KEN HECHLER (W. Va.), Chmn., Energy Research, Development, and Demonstration (Fossil Fuels) Subcom., Science and Technology Committee
- CHARLES ROSE (N.C.), Chmn., Computer Subcom., House Administration Committee
- WALTER B. JONES (N.C.), Chmn., Tobacco Subcom., Agriculture Committee
- CHARLES WILSON (Calif.), Chmn., Postal Facilities, Mail, and Labor Management Subcom., Post Office and Civil Service Committee
- EDWARD R. ROYBAL (Calif.), Chmn., Housing and Consumer Interests Subcom., Select Committee on Aging
- FRANK THOMPSON, JR. (N.J.), Chmn., Labor-Management Relations Subcom., Education and Labor Committee; Chmn., Accounts Subcom., House Administration Committee
- ROBERT H. MOLLOHAN (W. Va.), Chmn., Paper Conservation Subcom., District of Columbia Committee

Co-Sponsors to "LIFELINE RATE ACT" - H.R. 11449

Page 2

RONALD V. DELLUMS (Calif.), Chmn., Education, Labor and Social Services Subcom., District of Columbia Committee

ROBERT A. ROE (N.J.), Chmn., Economic Development Subcom., Public Works and Transportation Committee

PATSY T. MINK (Hawaii), Chmn., Mines and Mining Subcom., Interior and Insular Affairs Committee

ROBERT M. C. NIX (Pa.), Chmn., International Economic Policy Subcom., International Relations Committee

RALPH H. METCALFE (Ill.), Chmn., Panama Canal Subcom., Merchant Marine and Fisheries Committee

DON EDWARDS (Calif.), Chmn., Civil and Constitutional Rights Subcom., Judiciary Committee

DOMINICK V. DANIELS (N.J.), Chmn., Manpower, Compensation, and Health and Safety Subcom., Education and Labor Committee

AUGUSTUS F. HAWKINS (Calif.), Chmn., Equal Opportunities Subcom., Education and Labor Committee; Chmn., Electrical and Mechanical Office Equipment Subcom., House Administration Committee

HERBERT E. HARRIS, II (Va.), Chmn., Bicentennial, the Environment, and the International Community Subcom., District of Columbia Committee

PETER W. RODINO, JR. (N.J.), Chmn., Judiciary Committee

HAROLD E. FORD (Tenn.)

JOHN BURTON (Calif.)

WILBUR MILLS (Ark.)

JOE MOAKLEY (Mass.)

BOB EDGAR (Pa.)

WILLIAM LEHMAN (Fla.)

ANDREW YOUNG (Ga.)

HENRY HELSTOSKI (N.J.)

JAMES WEAVER (Ore.)

PARREN J. MITCHELL (Md.)

HERMAN BADILLO (N.Y.)

EDWARD P. BEARD (R.I.)

FORTNEY H. (PETE) STARK (Calif.)

NORMAN D'AMOURS (N.H.)

EDWARD I. KOCH (N.Y.)

RONALD L. MOTT (Ohio)

FLOYD J. FITHIAN (Ind.)

HENRY A. WAXMAN (Calif.)

SHIRLEY CHISHOLM (N.Y.)

CHRISTOPHER J. DODD (Conn.)

DONALD W. RIEGLE, JR., (Mich.)

JAMES S. SCHEUER (N.Y.)

GLADYS NOON SPELLMAN (Md.)

CHARLES WILSON (Texas)

STEWART B. MCKINNEY (Conn.)

TOM HARKIN (Iowa)

JAMES J. BLANCHARD (Mich.)

ROBERT J. CORNELL (Wisc.)

FREDERICK W. RICHMOND (N.Y.)

CHARLES B. RANGEL (N.Y.)

GEORGE MILLER (Calif.)

LEO C. ZEFERETTI (N.Y.)

ANTONIO BORJA WON PAT (Guam)

CARDISS COLLINS (Ill.)

WILLIAM H. HARSHA (Ohio)

STEPHEN L. NEAL (N.C.)

JERRY M. PATTERSON (Calif.)

NOTE: Similar and identical bills:

H.R. 10869, H.R. 11491 - William Lehman

H.R. 11938 - Dominick V. Daniels

H.R. 11975 - John J. Duncan

H.R. 12163 - James H. Quillen

S. 3011 - Howard M. Baker, Jr.

SOURCE: LIBRARY OF CONGRESS

Relative costs of home heating by oil, natural
gas and electricity

For December, 1975, the estimated costs for home heating
were:

<u>by heating oil:</u>	\$3.09/million BTU's
<u>by natural gas:</u>	\$1.66/million BTU's
<u>by electricity:</u>	\$9.63/million BTU's

These figures are based on the Labor Department's price
surveys. They do not include the cost of home furnaces, fuel
burning equipment, etc. They are just the "delivered price"
of the various energy sources to individual households.

Exhibit to the Testimony of Congressman Clifford Allen
April 1, 1976 before the Subcommittee on Energy and Power
of the Committee on Interstate and Foreign Commerce

STATEMENT ON LIFELINE RATES

DR. MICHAEL J. ILEO, PRESIDENT
TECHNICAL ASSOCIATES, INCORPORATED

AND

DR. JAMES R. MARCHAND, ASSISTANT
PROFESSOR, ECONOMICS, VIRGINIA
COMMONWEALTH UNIVERSITY

BEFORE THE
ENERGY AND POWER SUBCOMMITTEE
INTERSTATE AND FOREIGN COMMERCE COMMITTEE
U. S. HOUSE OF REPRESENTATIVES

APRIL 1, 1976

SUMMARY STATEMENT ON LIFELINE RATES

Since the first espousal of the lifeline concept, many economists, engineers, and other experts on electrical energy have expressed numerous theoretical and practical reasons for not supporting the concept. We are sure that the other panelists and experts testifying today will enumerate the objections to lifeline rates.

We are not opposed to lifeline rates because we believe their establishment is an improper social policy. However, we are opposed to the imposition of such rates through government edict, for the presumed goals of lifeline rates can be achieved by promoting sound regulatory practice, which is synonymous with sound economic policy. In our judgment, the rate reform provisions of the legislation which you are considering today (H.R. 12461 and H.R. 10100) will accomplish the objectives of lifeline rates. While there is a need to foster sound regulatory policy through rate reform, there is no need to legislate into existence lifeline rates.

Our position today is that the objectives of lifeline can be achieved by instituting cost of service pricing and, thereby, eliminating price discrimination which is largely responsible for the need to ease the burden on low-income electric customers. The impetus which gave rise to the desire for lifeline rates was the dramatic increase in electric rates over the past several years. Those on relatively small and fixed incomes felt the

burden far more sharply than their counterparts of more substantial means. But the real problem has always been that the relatively low-income, relatively low-user of electricity has been required to shoulder the cost burden which should have been placed on the relatively high-income, high-user of electricity. This is the case because virtually all electric utilities price using a declining block rate structure, where the average rate paid per kwh declines as consumption increases. The declining block rate structure is a strange pricing device when it is well-known that electric utilities are operating under conditions of increasing costs. Under such conditions, the use of the declining block rate structure places an undue burden on the low-usage customers, for they effectively subsidized large-users.

The age of declining block rate structures in the U. S., price discrimination and the need for lifeline rates will end when rate reform becomes a reality. If the rate reform provisions of the legislation under consideration today are enacted and if regulatory bodies proceed with dispatch in implementing those provisions, then there is little need for lifeline. In fact, the imposition of lifeline in conjunction with rate reform could well strike a serious blow to the achievement of rate reform since the arbitrary selection of a lifeline rate is

inconsistent with cost of service pricing.

In addition to the legislation under consideration today, there are a number of significant investigations and experiments on rate reform being conducted. These include studies in California, New York, Wisconsin, Arkansas, Arizona, etc., some of which are supported by FEA. More can be expected in the future. These studies, in conjunction with rate reform legislation, should create the environment necessary to the establishment of cost based electric rates and the end of the situation whereby low-usage customers subsidize high-usage customers.

STATEMENT ON LIFELINE RATES

It now appears that electric utility pricing in the United States is on the threshold of a new era. The near future promises to be a period of rate reform, rate redesign, rate restructuring and the institution of peak-load pricing. Evidence of these trends is abundant. The California, New York, and Wisconsin PUC's have already instituted proceedings to investigate rate structure, cost principles for pricing, and peak-load pricing. The FEA has six experiments around the country to analyze peak-load pricing. There are also other independent experiments with peak-load pricing currently. The National Association of Regulatory Utility Commissioners has initiated a study of rate design and peak-load pricing under the direction of the Edison Electric Institute and the Electric Power & Research Institute. The overall thrust of the current rate redesign is a movement towards rates based on the cost of service. Passage of the rate reform bills under consideration by the Congress will provide further and necessary impetus to this trend.

Given the strong forward movement that rate redesign is taking, particularly if it is accompanied by rate reform legislation, it seems unnecessary to mandate or legislate lifeline rates at the current time. Additionally, lifeline rates contradict the basic principle that electric rates should be based on costs of service. More importantly, cost of service pricing can eliminate much of the need for lifeline rates. This can best be seen by briefly examining current rate structures, the

discrimination they entail, and the manner in which new cost based rate structures will end the discrimination and the need for lifeline rates.

Current Rate Structures and Discrimination

Virtually all electric utilities currently employ declining block rate structures, where the average price of electricity declines as the consumption of kilowatt-hours increases. This declining block rate structure is employed for residential, commercial, and industrial customers. An example of a declining block residential rate structure is given below in Table 1.

TABLE 1
TYPICAL DECLINING BLOCK RESIDENTIAL RATE STRUCTURE

Monthly Kilowatt Hour Consumption	Rate Base	Fuel Adjustment Charge
1st 25 KWH	\$2.00	.75¢/KWH
Next 50 KWH	5.0¢/KWH	.75¢/KWH
Next 325 KWH	3.0¢/KWH	.75¢/KWH
Next 400 KWH	2.0¢/KWH	.75¢/KWH
Next 400 KWH	1.8¢/KWH	.75¢/KWH
Next 400 KWH	1.5¢/KWH	.75¢/KWH
All Additional KWH	1.0¢/KWH	.75¢/KWH

As indicated the base rate per kilowatt-hour declines as the amount of KWH consumed per month increases. This is the essence of a declining block rate structure. The fuel adjustment charge reflects the cost of fuel to the utility and allows the utility to pass on increased fuel costs to customers without going through a rate proceeding.

The manner in which declining block rate structures result in discrimination can be seen by looking at some typical bills under the rate structure above for two residential customers. Let us assume that one customer is a small electricity user consuming only 500 kilowatt-hours per month while our second residential customer is a larger consumer, consuming 3000 kilowatt-hours per month. The calculation of typical bills for these two customers is shown in Table 2.

TABLE 2
TYPICAL BILLS UNDER DECLINING BLOCK RATE STRUCTURE

500 KWH		3000 KWH	
25 KWH	= \$2.00	25 KWH	= \$2.00
50 KWH x 5.0¢	= 2.50	50 KWH x 5.0¢	= 2.50
325 KWH x 3.0¢	= 9.75	325 KWH x 3.0¢	= 9.75
100 KWH x 2.0¢	= <u>2.00</u>	400 KWH x 2.0¢	= 8.00
		400 KWH x 1.8¢	= 7.20
500 KWH	\$16.25	400 KWH x 1.5¢	= 6.00
	Basic Bill	1400 KWH x 1.0¢	= <u>14.00</u>
		3000 KWH	\$49.45
			Basic Bill
500 KWH x .75¢	= \$3.75	3000 KWH x .75¢	= \$22.50
	Fuel Adj.		Fuel Adj.
	\$20.00		\$71.95
	Total Bill		Total Bill

The calculation of these typical bills shows one aspect of the discrimination created by the declining block rate structure. The large electricity user, while consuming six times the kilowatt-hours that the smaller electricity user does, pays only 3.6 times as much. The discrimination which

the declining block rate structure creates between these two customers can best be seen if their payments or bills are looked at in terms of the average price per kilowatt-hour. For the residential customer who consumes 500 kilowatt-hours per month, the average rate paid is 4¢ per kilowatt-hour. The average rate paid by the 3000 kilowatt-hour customer is 2.4¢ per kilowatt-hour. Thus, the small residential user pays an average rate which is roughly 40 percent higher than the average rate for the large customer. Such a price differential cannot be justified on the basis of cost since virtually all electric utilities currently face increasing costs.

Some electric utilities still have special all-electric space-heating rate structures. In these cases, there is even more discrimination among residential customers. Like the regular residential rate structure, the all-electric rate structure is of a declining block nature. An example of an all-electric residential rate structure is given in Table 3.

TABLE 3

TYPICAL ALL-ELECTRIC DECLINING
BLOCK RESIDENTIAL RATE SCHEDULE

Monthly Consumption	June-Oct.	Nov.-May	Fuel Adjustment
First 130 KWH	\$8.90	\$8.90	1¢/KWH
Next 170 KWH	2.71¢/KWH	2.71¢/KWH	1¢/KWH
All additional KWH	3.41¢/KWH	1.21¢/KWH	1¢/KWH

Again, this rate structure exhibits a declining block nature, offering consumers a lower charge per kilowatt-hour the more

they consume.

Essentially, it has been the discrimination created by the declining block rate structures which has created the demand for lifeline rates. In essence, the low kilowatt-hour consumer has been subsidizing the high kilowatt-hour consumer. Because of that subsidization, the low kilowatt-hour consumer has attempted to obtain relief by creating an environment in which their elected officials feel obliged to relieve their burden.

Rate Reform and Cost of Service Based Rates

As we indicated earlier, rate reform is directed toward determining rates based on the cost of service. Though there is a strong impetus at the time towards designing rates based on the cost of service (as witnessed in H.R. 12461 and H.R. 10100), the exact form that the rates will take is not yet determined. There are many possible forms which the rates might take. However, ideally rate structures should consist of three parts, since a utility in producing, transmitting and distributing electricity incurs three basic costs. First, are the costs associated with providing the facilities and people necessary to meet peak kilowatt (kw) loads. These are called capacity costs. Second, there are costs associated with producing kwh's. These, which consist largely of fuel costs, are called energy costs. Finally, there are the costs associated with serving customers irrespective of the kw load and kwh consumed. These are called customer costs. Once these costs are determined and allocated properly to each

customer class, rate structures can be designed appropriately. An ideal residential rate structure would consist of a separate charge to reflect each of the types of costs of service. In our previous example of the current residential rate structures with one 500 kilowatt-hour consumer and one 3000 kilowatt-hour consumer, the company would collect \$92.00 per month. Let us suppose for the moment that this is the total cost of service for these two customers. An ideal rate structure might take the form shown in Table 4.

TABLE 4
HYPOTHETICAL COST-BASED
RESIDENTIAL RATE SCHEDULE

Service	Monthly Charge
Customer	\$5.00
Capacity	\$4.00 per maximum kw used in the peak period
Energy	1¢ per kwh

Given this three-part rate structure, if we further assume that a 500 kilowatt-hour customer has a maximum kilowatt use of one (1) kilowatt in the billing period, while the 3000 kilowatt-hour customer has a maximum of 10.75 kilowatts in the monthly billing period, one can then calculate typical bills as shown in Table 5.

TABLE 5
TYPICAL BILLS
HYPOTHETICAL COST OF SERVICE
BASED RATE SCHEDULE

	500 kwh	3000 kwh
Customer Charge	\$ 5.00	\$ 5.00
Capacity Charge	4.00	43.00
Energy Charge	<u>5.00</u>	<u>30.00</u>
	\$14.00	\$78.00

As you will note, in comparison to the declining block rate structure considered earlier, the monthly bills shown in Table 5 indicate a decrease from about \$20 to \$14, a 30 percent decline, in the bill of the 500 kilowatt-hour customer. Simultaneously, the bill for the 3000 kilowatt-hour customer under the three-part rate structure is 8-1/3% higher or \$6.00 per month larger, increasing from \$72.00 to \$78.00, than under the declining block rate structure. The rates based on costs simply reallocate the source of revenue and, thereby, put an end to price discrimination. As under the declining block rate structure, the three-part rate structure yields \$92.00 in revenue per month to the company. The three-part rate structure would bring an end to the subsidization of the high kilowatt-hour consumer by the low kilowatt-hour consumer and thus, largely eliminates or certainly minimizes the need for lifeline.

Concluding Remarks

As the United States moves into a new era of electricity pricing, the perceived need for lifeline rates will be minimized if not eliminated. The perceived need originated because of the discriminatory nature of the declining block rate structure used in the electric utility industry. As a result of that rate structure, low-volume or usage customers have subsidized high-usage customers. Thus, low-usage residential customers have paid too much for the services they received. This has led some to believe that lifeline rate structures will cure the problem. However, proponents of lifeline fail to recognize that lifeline is inconsistent with cost based rates. Moreover, they often forget the cost of service pricing can accomplish the objectives of lifeline.

Cost of service based rates will mean that revenues are collected in direct proportion to the cost that the various customer classes place on the utility. Typically, the low kilowatt-hour residential consumer causes the utility to incur substantially less costs per kilowatt-hour than other customers. Therefore, it can be expected that low kilowatt-hour consumers, on the basis of cost based rates, will pay a lesser price per kilowatt-hour than they currently are. Additionally, to initiate lifeline rates now can only mean charging certain customers less than the cost of service, while others are charged more. In essence, lifeline further entrenches price discrimination as an element in ratemaking, although the discrimination may be reversed.

In summary, we would urge that the rate reform provisions which you are considering be enacted. We do not believe, however, that the lifeline provisions are inconsistent with rate reform molded in accordance with sound regulatory practice. Therefore, we cannot support the lifeline provisions. But we do claim that the objectives of lifeline can be achieved through rate reform.

QUALIFICATIONS

DR. MICHAEL J. ILEO

I am president of Technical Associates, Incorporated, which has offices in Richmond, Virginia and Washington, D. C. Technical Associates was formed in 1969 as an economics research and consulting firm to provide a wide variety of business and technical consulting services to private and governmental clients, particularly in the areas of public utility, transportation and monetary economics.

The consulting services rendered by Technical Associates include the development of research reports and testimony in the areas of demand analysis, site location, rate structure design, rate of return, and environmental impact. In connection with this work, I have presented formal testimony before the Federal Power Commission; the Federal Communications Commission, Virginia State Corporation Commission, Maryland Public Service Commission, Federal Price Commission, the Interstate Commerce Commission, the Washington Metropolitan Area Transit Commission, Rhode Island Public Service Commission, Florida Public Service Commission, Kentucky Public Service Commission, Nevada Public Service Commission, New York Public Service Commission, and the Regional Administrator of National Banks.

In the field of public utility economics, members of the firm have participated in nearly one hundred rate and other proceedings before regulatory agencies. I have testified in

proceedings which have involved Commonwealth Gas Distribution Corp. (Virginia, Case No. 19218); United Inter-Mountain Telephone Company (Virginia, Case No. 19099); Potomac Electric Power Company (Virginia, Case No. 19175); Delmarva Power and Light Company of Maryland (Maryland, Case No. 6541); Virginia Electric and Power Company (Virginia, Case No. 19179); Chesapeake and Potomac Telephone Company of Virginia (Virginia, Case No. 19152); Potomac Edison Company (Virginia, Case No. 19139); New England Motor Rate Bureau (Federal Price Commission); Roanoke Gas Company (Virginia, Case No. 19094); Clifton Forge-Waynesboro Telephone Company (Virginia, Case No. 19116); Virginia Telephone and Telegraph Company (Virginia, Case No. 19298); Williams Brothers Pipeline (Interstate Commerce Commission, Docket Nos. 35720, 35533 and 35540); Independent Oil and Gas Association of West Virginia (Federal Power Commission, Docket No. RI74-188); D. C. Transit Co. (Washington Metropolitan Area Transit Commission, Docket No. 216); American Telephone and Telegraph Company (Federal Communications Commission, Docket No. 20376); South Central Bell Telephone Company (Kentucky Public Service Commission, Case No. 6232); Central Telephone Company of Florida (Florida Public Service Commission, Docket No. 750320-TP); Bell Telephone Company of Nevada (Nevada Public Service Commission, Docket No. 425); and Long Island Lighting Company (New York Public Service Commission, Case No. 26887).

Prior to my association with Technical Associates in 1969, I served as a consultant to Monsanto Chemical Company, under the

direction of Dr. Joel Dirlam, on the economics of joint ventures in the petrochemical industry. My work involved an analysis of the justification for and economic impact of joint ventures in the petrochemical industry, particularly with regard to chemical plants, refineries, and pipelines.

I received the B.S. (1965) and M.S. (1968) in Economics from the University of Rhode Island. I attended the University of Missouri (Columbia) where I studied advanced economic theory, taught undergraduate economics and served as a research economist in the School of Engineering on the costs and benefits of alternative environmental-engineering systems. I hold a Ph.D. in economics (1972) from Virginia Polytechnic Institute and State University.

I am a member of the American Economic Association, Southern Economic Association, Western Economic Association, American Risk and Insurance Association and the American Academy of Political and Social Sciences. I have published articles in the William and Mary Law Review on utility and banking regulation. In addition, I have spoken before various professional groups on the subject of utility regulation, such as the Washington Forum, which is a group of financial analysts who meet regularly to discuss financial trends in the economy.

QUALIFICATIONS

DR. JAMES R. MARCHAND

I am Assistant Professor of Economics at Virginia Commonwealth University. From 1971 to 1975, I was Assistant Professor of Economics at California State University, Northridge. I am also an consulting economist associated with Technical Associates, Richmond, Virginia.

I hold a Ph.D. in Economics from Virginia Polytechnic Institute and State University, 1973 and a B.A. degree in Mathematics from University of California, Riverside, 1966. In my graduate work I specialized in price theory, public economics, public utility economics, and monetary theory.

Since I began my graduate studies at Virginia Polytechnic Institute and State University in 1970, I have been constantly associated with Technical Associates in a consulting capacity. For the last two years my consulting activity for Technical Associates has concentrated on pricing analyses. Over the last year my consulting work has concentrated on analyzing rate structures for electric utilities. In this work I have analyzed electric utilities costs, their rate of return by customer class, and developed rate structure testimony. Currently, I am participating in the development of a cost of service model for electric utilities which will be the basis for developing cost based rate structures for the electric utilities. I have testified before the Virginia State Corporation Commission.

I have published in the American Economic Review and the Journal of Management and Business Consulting. Forthcoming publications will appear in the Southern Economic Journal and the Atlantic Economic Journal.

I am a member of the American Economic Association, the Public Choice Society and the National Tax Association. I referee articles for the American Economic Review, and the Journal of Environmental Economics and Management.

Statement of

Herbert B. Cohn, Vice Chairman
American Electric Power Company

On

Electric Power Rates For The Economically Disadvantaged

Before The

Subcommittee on Energy and Power

Of The

House Committee on Interstate and Foreign Commerce

April 1, 1976

Electric Power Rates For The Economically Disadvantaged

My name is Herbert B. Cohn. I am Vice Chairman of American Electric Power Company, the parent company of the American Electric Power System. This Statement is in response to an invitation to present my views on proposals for special electric power rates for the economically disadvantaged -- which are sometimes referred to as "lifeline rates".

I.

The Proposal in H.R. 12461

Section 203(a)(3)(A) of H.R. 12461 would require that, in general, every residential electric consumer must be provided with "a subsistence quantity of electric energy" at a charge per kilowatthour which does not exceed the lowest charge per kilowatthour to any other electric consumer of the supplying utility.

The objective of this provision is, as I understand it, to assure that the economically disadvantaged are provided with an essential minimum of electric power at a cost they can afford. I fully support this objective. But I believe the approach proposed in Section 203 is not the proper way to achieve the objective and that there is a more effective, less wasteful and fairer way.

Under the formula prescribed in Section 203, the charge for the "subsistence quantity" of electric energy would be completely unrelated to the cost of such service and, in fact, would be only a minor fraction of such cost. This is so because the formula is based on the lowest kilowatthour charge

to any other consumer and, in the case of those consumers whose rates include a demand component (i.e., a charge per kilowatthour of demand) and an energy component (i.e., a charge per kilowatthour), the charge per kilowatthour will generally cover very little more than actual fuel costs.^{*/}

Under the formula in Section 203, the lowest kilowatt-hour charge to any other consumer would be the total charge for the specified quantity of service to the residential consumer. This would disregard completely any element of the demand cost involved and any element of the direct customer cost associated with meter reading, accounting and billing such customer.

In a recent study by the Staff of the West Virginia Public Service Commission, it was demonstrated that a somewhat similar approach of providing all residential consumers with the first 300 kilowatthours at a flat price of 3¢ per kilowatt-hour would require one of the utilities in the State to provide this service at some \$14 million below the present cost of such service.^{**/} This flat price of 3¢ per kilowatthour is

^{*/} There is at least one rate which comes to mind (i.e., the charge for "dump" hydro power) in which the cost per kilowatthour may even be materially less than the fuel cost per kilowatthour for electricity generated in a steam plant.

^{**/} Attached as Appendix A are extracts dealing with "lifeline rates" from a study by the Division of Accounts, Finance and Rates of the Public Service Commission of West Virginia. Appendix A-1 includes the relevant material from a Report to the Commission dated December 31, 1975, and Appendix A-2 includes a Supplemental Report to the Commission dated January 20, 1976. The conclusions in this report are based on facts developed by the West Virginia Staff on the correlation between consumer income and kilowatthour usage. The study includes some five pages of bibliography.

likely to be several times greater than the charge which would result from the formula in Section 203. Under the Section 203 formula this revenue loss of \$14 million would, therefore, be much greater. And the fact is that only one-twentieth or less of this revenue loss is associated with help to the economically disadvantaged, while 95% or more would represent a windfall for consumers who can afford to pay the full cost of the service.

The Underlying Premises of the Proposal in H.R. 12461

The provisions of Section 203(a)(3)(A) appear to be based on three major premises:

First, that at least a minimum of electric power should now be regarded as a virtual necessity; second, that there is an economically disadvantaged group which may not be able to afford the cost of such minimum of electric power; and, third, that it should be provided at a special -- and below cost -- rate by the electric utility supplier.

I fully agree that a minimum standard of living requires at least a minimum quantity of electric power -- just as it also includes minimum requirements for food, clothing, shelter and other necessities of life.

I fully agree also that some of the economically disadvantaged may not be able to afford the cost of such minimum quantity of electric power -- just as they may not be able to afford the cost of minimum requirements for food, clothing, shelter and other necessities of life.

I believe that assistance should be provided to enable this economically disadvantaged group to obtain a minimum

quantity of electric power. But I do not believe the "scatter-shot" proposal in Section 203 is the proper way to provide such help.

II.

The Need For a More Accurate Definition of the Economically Disadvantaged Group and For a Determination of How and By Whom Assistance is to Be Provided

In providing assistance to enable the economically disadvantaged to obtain a "subsistence quantity" of electric power, two principal problems must be resolved. It is necessary, first, to identify and define the economically disadvantaged group; and, second, to determine how and by whom the required financial assistance should be provided.

- A. Defining the Disadvantaged Group in Terms of Those Using a Specified Quantity of Energy is Highly Inaccurate and Wasteful and, in Some Cases, Can Impose Higher Costs on the Disadvantaged Than Those Now Being Incurred.

The provisions of Section 203 approach the problem of identification and definition by assuming that the disadvantaged class can be adequately defined as those included in the group using a specified quantity of energy. But this approach is highly inaccurate, wasteful, and, in some cases, counter-productive. First, it includes among those to be helped a very large number of consumers who are not, in fact, disadvantaged and can afford to pay for the cost of their service; and, second, it may impose even greater burdens on some of the larger use consumers who are, in fact, among the economically disadvantaged.

A number of studies, including the West Virginia study attached as Appendix A, have shown conclusively that there is no precise correlation between economic status and kilowatthour use. Such studies have shown, for example, that:

(1) The small user of electric power is not always one of the economically disadvantaged. Small users frequently include people of wealth who spend more time away from their homes or whose electric power use at a "second home" may be minimal. ^{*/}

(2) Some of the economically disadvantaged may be large users -- those less able to afford diversion away from the home frequently use more kilowatthours than the more advantaged in cooking, lighting, home laundry, hot water, radio, television and the like.

(3) Therefore, it is not possible, with any degree of accuracy, to use electric power consumption as the basis for identifying and defining the economically disadvantaged.

(4) The use of the "scatter-shot" approach proposed in Section 203 -- under which a below-cost rate for a specified

^{*/} Section 203 appears to recognize the "second home" problem by providing that the special rate is to be available only for the consumer's "principal place of residence". This would, of course, create a problem of no small proportions in administration and enforcement. Efforts by a utility supplier to police any such limitation would create substantial problems in customer relations, rights of privacy and other areas in which the utility should not be forced to intrude.

number of kilowatthours would be provided to all residential consumers -- would result in such below-cost service being provided to a very large number of consumers who do not need such assistance. Studies have shown that, among those using at least a specified minimum of electric power -- for example, 200 kilowatthours monthly -- 95% or more would not fall within any reasonable definition of the economically disadvantaged. But, under the proposal in Section 203, this group would still be provided with below-cost service for the specified quantity of kilowatthours.

(5) Some of the larger use consumers who are, in fact, economically disadvantaged might be required under the Section 203 proposal to pay more for their electric power than they would pay under conventional cost-related rates.^{*/}

To achieve a fair and accurate identification of the economically disadvantaged group -- and to avoid unnecessary windfalls and unintended subsidization for those who are not among the disadvantaged -- requires use of the same criteria as are used in determining eligibility for such things as food stamps

^{*/} The West Virginia study attached as Appendix A shows that, if it be assumed that the revenue loss associated with the below-cost service of the specified "subsistence quantity" of electric energy is to be made up by increasing the rates to residential consumers for all other service, the result, among other things, would be that some of the larger use consumers who are, in fact, in the economically disadvantaged group would be required to pay more, in the aggregate, for their electric power than under the rates charged before the imposition of the "lifeline rate".

and welfare assistance -- i.e., the criteria of need and financial resources.

B. Providing Below-Cost Electric Power to the Economically Disadvantaged By Requiring Other Consumers to Pay Above Cost For Their Service Violates the Cost-Relationship Principle and Is Unsound and Unfair. Any Such Assistance Should Be Provided As a Governmental Responsibility From Public Resources.

The second question which must be faced and decided relates to who should provide the required financial assistance.

If the economically disadvantaged are to be provided with a specified quantity of electric power at less than its cost, someone else must provide the difference between its cost and the price paid for it.

A utility supplier cannot long provide service unless it receives total revenues which cover its total costs, including the cost of the capital investment devoted to providing the service. Accordingly, the difference between any below-cost rate established for the economically disadvantaged and the cost of such service must be provided either by the other consumers or by the general taxpayer through governmental assistance.

The amount of this difference can be very substantial. In the West Virginia study, to which I earlier referred, the annual revenue loss -- under a proposed requirement that there be a "lifeline rate" of 3¢ per kilowatthour for the first 300 kilowatthours per month for each residential consumer -- was found to be some \$14 million. In such case, to maintain its

financial viability the utility would have had immediately to increase the rates charged to consumers for all other service by this \$14 million.

This approach to providing financial assistance to the economically disadvantaged by imposing higher electric power rates on other consumers is unsound and unfair. It violates the principle (which elsewhere in H.R. 12461 is strongly emphasized) that rates for electric power should be related to the cost of providing the service. It would do so in two respects: First, by requiring service at less than cost to the "lifeline" consumer and, second, by imposing a rate in excess of cost to other consumers.

And this approach is unfair in imposing on the other consumers an additional non-cost related burden which is properly a social cost and which should be a responsibility of society as a whole.

If it is decided that financial assistance should be made available to the economically disadvantaged to assure them a minimum quantity of electric power, I submit that it should be provided by all taxpayers as a governmental responsibility -- just as is the assistance provided in the case of food stamps, welfare and other necessities of life. It is neither sound nor fair to impose this additional cost on the consumers of electric power.

III.

Conclusion

In sum, my views on the proposal in Section 203(a)(3)(A) of H.R. 12461^{*/} are:

A. I agree that a minimum standard of living requires at least a minimum quantity of electric power; that some of the economically disadvantaged may not be able to afford the cost of such minimum quantity of electric power; and that assistance should be provided to enable them to obtain such minimum quantity of electric power. But the proposal in Section 203 is not the proper way to achieve that objective and should be rejected.

In the first place, it violates the principle that rates should be cost-related and would require that service be provided at a minor fraction of its cost.

Second, it would be highly inaccurate and wasteful. Only 5% or less of the substantial revenue loss it would impose would be associated with help to the economically disadvantaged. The remaining 95% or more would represent a windfall for consumers who can afford to pay the full cost of service.

Third, it could well be counter-productive in imposing greater costs on some of the larger use consumers who are among the economically disadvantaged.

Fourth, it would be unsound and unfair in imposing on other consumers an additional burden, wholly unrelated to the

^{*/} These views are equally applicable to the proposal in H.R. 12180 which, although it includes some textual differences, follows the same general approach.

cost of service, which is properly a social cost and should be a responsibility of society as a whole.

B. If the Congress decides as a matter of social policy that financial assistance should be provided to enable the economically disadvantaged to obtain a minimum quantity of electric power at below-cost rates, the sound, effective and fair way to carry out such a policy is:

1. To identify and define the disadvantaged group through the use of the same criteria as are now being used to identify and define the group entitled to food stamps and welfare assistance -- i.e., on the basis of need and financial resources; and
2. To require that such financial assistance be provided from public resources as is now being done in the case of food and welfare.

C. If, notwithstanding the foregoing, the Congress decides that the approach in Section 203 should be adopted and that the resulting revenue loss is to be made up by requiring other consumers to pay more than the cost of their service, the Congress should explicitly recognize that fact and should prescribe how the rates of such other consumers are to be increased to compensate for the revenue loss.

APPENDIX A-1

Extract From

Public Service Commission of West Virginia
Division of Accounts, Finance and Rates
Report to the Commission on
Electric Rate Design Studies

December 31, 1975

LIFELINE RATES

The term "lifeline rates" is one which has recently come upon the regulatory scene and is hailed by many consumer advocates before regulatory agencies as a proper approach to rate design. The concept of a lifeline rate is not too difficult to grasp. A lifeline rate would be based on the assumption that there is a certain minimum quantity of electrical energy which should be guaranteed to residential customers at a very low price. That quantity of energy, which would be that amount necessary to provide a customer with a reasonably comfortable condition of life, would therefore be available to low income consumers. While the concept of lifeline rates is not difficult to understand, it appears that definitive lifeline proposals are as numerous as they are contradicting. Any discussion of lifeline rates must begin by asking certain questions:

- (1) What group of customers is intended to be helped by lifeline rates?
- (2) What level of usage should be set for the minimum lifeline standard?
- (3) How will the revenue deficiency created by lifeline rates be recovered by the electric utility?
- (4) To offset the lifeline revenue deficiency should remaining residential blocks bear a higher price increment?
- (5) If the revenue deficiency created by lifeline rates is recovered from remaining residential usage, should it be recovered in those blocks immediately following the lifeline level, from tail end blocks, or as an average over all remaining blocks?

The importance of these questions could best be demonstrated by developing several lifeline proposals within a hypothetical load pattern. Table 15 summarizes the residential bill frequency of our hypothetical company and develops an analysis of the units billed under each rate block. It also shows a simplified declining block rate structure which we will use as a starting point to show the effect of various lifeline proposals.

TABLE 15

Rates:

First	50 Kwh	8¢ per Kwh
Next	100 Kwh	7¢ per Kwh
Next	200 Kwh	6¢ per Kwh
Next	350 Kwh	5¢ per Kwh
Next	500 Kwh	4¢ per Kwh
Next	800 Kwh	3¢ per Kwh
Over	2,000 Kwh	2¢ per Kwh

Bill Frequencies:

<u>Consumption Blocks</u>	<u>Number of Bills</u>	<u>Total Consumption Kwh</u>
D - 50 Kwh	10	300
51 - 100 Kwh	20	2,000
151 - 350 Kwh	50	15,000
351 - 700 Kwh	100	60,000
701 - 1,200 Kwh	100	100,000
1,201 - 2,000 Kwh	50	90,000
Over 2,000 Kwh	20	56,000
Totals	350	323,300

Bill Analysis:

<u>Block</u>	<u>Total Kwh Billed</u>	<u>Rates \$</u>	<u>Revenues \$</u>
First 50 Kwh	17,300	.08	1,384.00
Next 100 Kwh	33,000	.07	2,310.00
Next 200 Kwh	61,500	.06	3,690.00
Next 350 Kwh	84,500	.05	4,225.00
Next 500 Kwh	65,000	.04	2,600.00
Next 800 Kwh	46,000	.03	1,380.00
Over 2,000 Kwh	16,000	.02	320.00
Totals	323,300		15,909.00

Within the boundaries of Table 15 consumption, we can show the varying effect of the following lifeline rate proposals:

- A. Set lifeline level at 350 Kwh to be billed at 4¢ per Kwh.
- B. Set lifeline level at 350 Kwh to be billed at 3¢ per Kwh.
- C. Set lifeline level at 700 Kwh to be billed at 4¢ per Kwh.
- D. Set lifeline level at 700 Kwh to be billed at 3¢ per Kwh.

The net effect of the above 4 proposals would be to reduce the utility's gross revenues as follows:

<u>Reduction in Revenues</u>	<u>Revenues Under Above Rates</u>	<u>Percentage Reduction In Gross Revenues</u>
A. \$2,912	\$15,909	18.3%
B. \$4,030	\$15,909	25.3%
C. \$3,757	\$15,909	23.6%
D. \$5,720	\$15,909	36.0%

Obviously, a utility company cannot afford to lose anywhere from 18 to 36% of its gross revenues, so the revenue deficiency must be made up from usage outside the lifeline rate blocks. This fact then leads us to the series of questions as to how the deficiency is to be apportioned among the remaining consumption.

Taking lifeline proposal "A", we can show the effect of recovering the deficiency in each of the following ways:

1. It could be recovered in the block immediately following the lifeline cut-off point.
2. It could be recovered on an average basis over the remaining blocks.
3. It could be recovered in the tail block only, or if that is totally unreasonable, as it may well be, it could be recovered over the last two blocks.

Table 16 is a graph which shows the resulting rates and the effect of the various proposals for recovering the revenue deficiency created by a 350 Kwh lifeline limit at a rate of 4¢ per Kwh. This graph shows that under any proposal, insofar as recovery of revenues lost due to the base lifeline amount, the customers' bills would be lower and identical from zero to 350 Kwh usage. From that point on, the effects of the various options for recovery of revenue deficiency are very different.

Option one assumes that all revenues lost due to base lifeline rates are recovered immediately in the next block of the proposed rate structure. Under this option, customers continue to benefit from the lifeline rates until a consumption of 611 Kwh is reached. From a usage of 612 Kwh on, all customers pay a higher bill under lifeline rates than would have been paid under non-lifeline rates.

Option two assumes that the revenues lost due to base lifeline rates are recovered on an average basis over the remaining blocks of the rate structure. Under option two, customers benefit from lifeline rates through a consumption of 1,002 Kwh. After that point is passed, customers pay a higher bill under lifeline rates than they would have paid under the non-lifeline rates.

Option three assumes that the revenues lost due to base lifeline rates are recovered only from the last two blocks of the rate structure. Under this proposal the benefits of lifeline rates extend to a much higher usage, about 1,380 Kwh, with dramatically higher bills resulting for customers above that level of consumption.

TABLE 16
COMPARISON OF MONTHLY BILLS UNDER
VARIOUS LIFELINE PROPOSALS



The effect of these three lifeline proposals on typical low income customers is shown in Tables 17, 18 and 19. We have randomly chosen a low, middle and high level user of electricity from actual customer data used in our studies. The varied, and sometimes severe, variations are clearly shown in these tables.

TABLE 17
COMPARISON OF BILLINGS UNDER VARIOUS LIFELINE PROPOSALS
LOW INCOME - LOW USAGE CUSTOMER

Month	Consumption KWH	Monthly Billing			
		Non-Lifeline	Lifeline	Lifeline	Lifeline
		Rates	Proposed 1	Proposed 2	Proposed 3
		\$	\$	\$	\$
January	260	17.60	10.40	10.40	10.40
February	101	7.57	4.04	4.04	4.04
March	567	33.85	32.23	27.89	24.85
April	574	34.20	32.82	28.34	25.20
May	196	13.76	7.84	7.84	7.84
June	265	17.90	10.60	10.60	10.60
July	190	13.40	7.60	7.60	7.60
August	154	11.24	6.16	6.16	6.16
September	356	23.30	14.50	14.38	14.30
October	111	8.27	4.44	4.44	4.44
November	410	26.00	19.04	17.84	17.00
December	370	24.00	15.68	15.28	15.00
Total		231.09	165.35	154.81	147.43

TABLE 18
COMPARISON OF BILLINGS UNDER VARIOUS LIFELINE PROPOSALS
LOW INCOME - MIDDLE USAGE CUSTOMER

Month	Consumption KWH	Monthly Billing			
		Non-Lifeline	Lifeline	Lifeline	Lifeline
		Rates	Proposed 1	Proposed 2	Proposed 3
		\$	\$	\$	\$
January	590	35.00	34.16	29.36	26.00
February	348	22.88	13.92	13.92	13.92
March	374	24.20	16.02	15.54	15.20
April	435	27.25	21.14	19.44	18.25
May	494	30.20	26.10	23.22	21.20
June	322	21.32	12.88	12.88	12.88
July	452	28.10	22.57	20.53	19.16
August	360	23.50	14.84	14.64	14.50
September	460	28.50	23.24	21.04	19.50
October	322	21.32	12.88	12.88	12.88
November	404	25.70	18.54	17.46	16.70
December	462	28.60	23.41	21.17	19.60
Total		316.57	239.70	222.04	209.71

TABLE 19
COMPARISON OF BILLINGS UNDER VARIOUS LIFELINE PROPOSALS
LOW INCOME - HIGH USAGE CUSTOMER

Month	Consumption KWH	Monthly Billing			
		Non-Lifeline	Lifeline	Lifeline	Lifeline
		Rates	Proposed 1	Proposed 2	Proposed 1
		\$	\$	\$	\$
January	4,020	124.90	127.80	167.28	248.44
February	2,845	101.40	104.30	127.33	169.72
March	3,043	105.36	108.26	134.06	182.98
April	2,474	93.98	96.88	114.72	144.86
May	1,594	72.32	75.22	80.74	81.84
June	1,341	64.73	67.63	69.60	62.36
July	1,389	66.17	69.07	102.52	58.35
August	1,076	55.54	58.44	56.70	46.54
September	1,284	63.02	65.92	67.10	57.97
October	500	30.50	26.60	23.60	21.50
November	2,156	87.62	90.52	103.90	123.55
December	3,108	106.66	109.56	136.27	187.34
Total		972.20	1,000.20	1,183.82	1,385.45

Earlier, we mentioned that one of the questions that we must answer before proceeding into any lifeline based rate revision is: "What customers are we attempting to help with lifeline rates?" The obvious answer, considering the social welfare implications, is that such rates are meant to provide economically disadvantaged customers with lower bills for electrical energy. Since such lower bills for one group of customers must be off-set by higher bills to another group of customers, it must follow that the intent of lifeline rates would be that customers other than the economically disadvantaged subsidize the benefactors of the lifeline rate. The obvious disadvantage of the lifeline options, that we have so far studied, is that the benefit and subsidization aims just mentioned can only be accomplished if all low consumption customers and no high consumption customers could be numbered among the economically disadvantaged. We do not believe that this condition exists.

Looking again at the graph on Table 16, we note that any customer whose usage places him on the various lifeline curves below the point at which that curve crosses the non-lifeline rate curve would benefit from the lifeline rate through a lower bill. Conversely, any customer which falls above the point at which the lifeline curve crosses the non-lifeline curve would subsidize the lower usage customers by paying a higher electric bill. It is almost a certainty that there will be many customers in the low usage group that are financially quite well off, however these customers will still benefit from lifeline rates. On the other hand, many of the customers who would be included in the group which requires financial assistance could be higher usage customers and could actually be confronted with higher bills under lifeline rates than under existing rate structures.

This problem, in addition to the fact that lifeline rates are contrary to the principle of cost based rates, are the two greatest disadvantages of any lifeline proposal. An alternative, such as only allowing the lifeline rate apply to an acceptable list of economically disadvantaged customers, would offer as many problems as to identification and eligibility as energy stamp proposals or expansion of existing welfare programs to include additional cash benefits for meeting utility bills.

Because of the popularity among many consumer oriented groups of lifeline rates and because of the importance of the social impact of welfare oriented rate designs, we have investigated the effect of lifeline rates as applied to actual West Virginia Statistics. To accomplish this, we have reviewed the lists of individuals receiving welfare payments from the State of West Virginia and those eligible for Food Stamp Program benefits. By this review, we first separated the

names geographically, placing each as to service area of all electric utilities in the state. We then determined how many of the listed individuals were also on record as customers of the various electric utilities. Where volume permitted, all names were cross-checked against utility company records; however, in the case of the larger utilities, where time prohibited examination of each name, we used a random 50% sample of welfare and food stamp recipients for cross-checking in order to determine how many of the sample names could also be identified as utility company customers.

Once we had specifically identified welfare and food stamp recipients on each electric utility's records, we obtained a twelve month bill frequency analysis to determine what levels of consumption these customers fell in.

While our studies in this area are not yet completed, we have been able to summarize a portion of the data compiled for inclusion in this report. Table 20 is a summary comparing total residential usage of our W. Va. electric utilities to the usage of the low income customers, while Tables 21 through 35 show the usage pattern of low income customers on a company by company basis, where information was available at the time of this report.

Since "average" annual usage may be only a computed figure which represents monthly consumption both above and below the "average", we have used 20 low income customers of one of our reporting electric utilities to show actual monthly consumption for a 12 month period. This study is shown on Table 36 and demonstrates that some low income users could receive both higher and lower bills under various lifeline proposals since their consumption could range from low to high depending on the month studied.

TABLE 20
COMPARISON BETWEEN LOW INCOME CUSTOMER ANNUAL USAGE
AND TOTAL COMPANY ANNUAL RESIDENTIAL USAGE

	Total Residential Customers			Total Low Income Customers		
	Number Customers	Kwh Usage	Average Kwh	Number Customers	Kwh Usage	Average Kwh
Black Diamond Power	1,362	7,776,514	5,627	18	164,000	9,111
United Light and Power	995	6,844,605	6,879	74	484,090	6,542
West Light and Power	475	3,261,250	6,870	76	451,790	5,945
West Light and Water	511	3,871,847	7,577	21	95,170	4,532
West Public Service Company	240	1,900,800	7,920	8	65,800	8,225
Elk Power Company	906	3,725,472	4,112	52	233,683	4,494
Union Power Company	1,341	7,913,241	5,901	22	116,950	5,316
Gray-Bortecourt Corp.	1,218	1,315,597	6,015	2	13,790	6,898
Weston Rural Electric Association	3,317	17,847,497	5,301	64	Note "A"	Note "A"
Monongahela Power Company	222,602	1,522,968,000	6,842	4,014	22,947,329	5,717
Potomac Edison Company	47,965	420,618,320	8,769	1,103	7,454,747	6,759
Virginia Electric and Power Company	16,684	104,698,267	6,275	400	1,795,655	4,489
Wheeling Electric	29,915	185,454,673	6,199	633	2,781,762	4,395
New Martinsville Utilities	1,390	7,868,672	5,661	48	Note "A"	Note "A"
Appalachian Power	293,406	2,320,996,847	7,910	5,266	27,172,560	5,160
Preston County Light	2,862	20,050,602	7,006		Note "A"	Note "A"
Chesapeake Light and Power	1,133	6,727,809	5,938		Note "A"	Note "A"
Standard Utility Service Corporation	1,170	962,659	8,663		Note "A"	Note "A"
Shenandoah Valley Electric Corp.	1,186	6,176,828	5,208		Note "A"	Note "A"
Phillippi Municipal Electric	1,258	8,509,902	6,765	37	280,779	7,589

Note "A" - Company was deficient in filing this information.

Note "B" - We sampled 57.66% of the low income group within

Appalachian Power Company's service area and identified

3,016 as Appalachian's customers. Using this as a basis

for computation, we assume that a 100% sample would

result in customer annual usage data as indicated.

AV

126.

AV

100AL

TABLE 21
APPALACHIAN POWER COMPANY
LOAD STUDY
LOW INCOME CUSTOMERS

<u>Rate Blocks</u>	<u>Low Income Customer Bills Falling Within Block</u>	<u>Percentage to Total Low Income Customer Bills</u>
0 - 30	371	1.2
31 - 70	622	1.9
71 - 200	6,131	19.0
201 - 500	14,611	45.3
501 - 1,500	9,418	29.2
Over 1,500	<u>1,080</u>	<u>3.4</u>
Total	<u>32,233</u>	<u>100.0</u>

TABLE 22
BLACK DIAMOND POWER COMPANY
LOAD STUDY
LOW INCOME CUSTOMERS

<u>Rate Blocks</u>	<u>Low Income Customer Bills Falling Within Block</u>	<u>Percentage to Total Low Income Customer Bills</u>
0 - 50	1	.5
51 - 100	14	6.5
101 - 200	23	10.7
201 - 500	95	44.2
501 - 1,500	58	26.9
Over 1,500	<u>24</u>	<u>11.2</u>
Total	<u>215</u>	<u>100.0</u>

TABLE 23
ELK POWER COMPANY
LOAD STUDY
LOW INCOME CUSTOMERS

<u>Rate Blocks</u>	<u>Low Income Customer Bills Falling Within Block</u>	<u>Percentage to Total Low Income Customer Bills</u>
0 - 22	3	.5
23 - 40	2	.4
41 - 80	17	3.1
81 - 300	232	41.6
Over 300	<u>303</u>	<u>54.4</u>
Total	<u>557</u>	<u>100.0</u>

TABLE 24
ELKHORN PUBLIC SERVICE COMPANY
LOAD STUDY
LOW INCOME CUSTOMERS

<u>Rate Blocks</u>	<u>Low Income Customer Bills Falling Within Block</u>	<u>Percentage to Total Low Income Customer Bills</u>
0 - 50	2	2.1
51 - 100	1	1.0
101 - 200	4	4.2
201 - 500	21	21.9
Over 500	68	70.8
Total	96	100.0

TABLE 25
CRAIG-BOTETOURT ELECTRIC COOPERATIVE
LOAD STUDY
LOW INCOME CUSTOMERS

<u>Rate Blocks</u>	<u>Low Income Customer Bills Falling Within Block</u>	<u>Percentage to Total Low Income Customer Bills</u>
0 - 25	-0-	-0-
26 - 70	-0-	-0-
71 - 200	-0-	-0-
201 - 750	17	81.0
Over 750	4	19.0
Total	21	100.0

TABLE 26
KIMBALL LIGHT & WATER COMPANY
LOAD STUDY
LOW INCOME CUSTOMERS

<u>Rate Blocks</u>	<u>Low Income Customer Bills Falling Within Block</u>	<u>Percentage to Total Low Income Customer Bills</u>
0 - 50	-0-	-0-
51 - 100	8	3.6
101 - 200	36	16.2
201 - 500	127	57.2
501 - 1,500	45	20.3
Over 1,500	6	2.7
Total	222	100.0

TABLE 27
MONONGAHELA POWER COMPANY
LOAD STUDY
LOW INCOME CUSTOMERS

Rate Blocks	Low Income Customer Bills Falling Within Block*	Percentage to Total Low Income Customer Bills
0 - 40	856	1.8
41 - 90	2,188	4.7
91 - 200	8,550	18.4
201 - 550	22,020	47.5
551 - 1,000	8,656	18.7
1,001 - 1,500	2,630	5.7
Over 1,600	1,494	3.2
Total	46,394	100.00

Note: * Bi-monthly billings were restated to reflect billing on a monthly basis.

TABLE 28
POTOMAC EDISON COMPANY OF WEST VIRGINIA
LOAD STUDY
LOW INCOME CUSTOMERS

Rate Blocks	Low Income Customer Bills Falling Within Block*	Percentage to Total Low Income Customer Bills
0 - 50	218	3.2
51 - 150	1,146	16.6
151 - 750	4,906	71.3
Over 750	614	8.9
Total	6,884	100.0

Note: * Bi-monthly billings were restated to reflect billing on a monthly basis.

TABLE 29
POTOMAC EDISON COMPANY OF WEST VIRGINIA - ELECTRIC WATER HEATING
LOAD STUDY
LOW INCOME CUSTOMERS

Rate Blocks	Low Income Customer Bills Falling Within Blocks*	Percentage to Total Low Income Customer Bills
0 - 50	12	.4
51 - 150	54	1.6
151 - 450	752	22.1
451 - 750	1,298	38.2
Over 750	1,284	37.7
Total	3,400	100.0

Note: * Bi-monthly billings were restated to reflect billing on a monthly basis.

TABLE 30
POTOMAC EDISON COMPANY OF WEST VIRGINIA - ALL ELECTRIC SERVICE
LOAD STUDY
LOW INCOME CUSTOMERS

Rate Blocks	Low Income Customer Bills Falling Within Block *	Percentage to Total Low Income Customer Bills
0 - 150	8	.6
151 - 400	28	2.0
401 - 1,650	756	53.6
Over 1,650	618	43.8
Total	1,410	100.0

Note: * Bi-monthly billings were restated to reflect billing on a monthly basis.

TABLE 31
UNION POWER COMPANY
LOAD STUDY
LOW INCOME CUSTOMERS

Rate Blocks	Low Income Customer Bills Falling Within Block	Percentage to Total Low Income Customer Bills
0 - 50	-0-	-0-
51 - 100	2	.9
101 - 200	9	4.1
201 - 500	106	48.9
501 - 1,500	100	46.1
Over 1,500	-0-	-0-
Total	217	100.0

TABLE 32
UNITED LIGHT AND POWER COMPANY
LOAD STUDY
LOW INCOME CUSTOMERS

Rate Blocks	Low Income Customer Bills Falling Within Block	Percentage to Total Low Income Customer Bills
0 - 50	20	2.4
51 - 100	29	3.4
101 - 200	42	4.9
201 - 500	338	39.8
501 - 1,500	403	47.5
Over 1,500	17	2.0
Total	849	100.0

TABLE 33
VIRGINIA ELECTRIC & POWER COMPANY
LOAD STUDY
LOW INCOME CUSTOMERS

<u>Rate Blocks</u>	<u>Low Income Customer Bills Falling Within Block</u>	<u>Percentage to Total Low Income Customer Bills</u>
0 - 90	538	12.7
91 - 210	981	23.3
211 - 600	1,798	42.6
Over 600	902	21.4
Total	4,219	100.0

TABLE 34
WAR LIGHT AND POWER COMPANY
LOAD STUDY
LOW INCOME CUSTOMERS

<u>Rate Blocks</u>	<u>Low Income Customer Bills Falling Within Block</u>	<u>Percentage to Total Low Income Customer Bills</u>
0 - 50	32	3.8
51 - 100	29	3.4
101 - 200	63	7.4
201 - 500	339	39.9
501 - 1,500	372	43.8
Over 1,500	15	1.7
Total	850	100.0

TABLE 35
WHEELING ELECTRIC COMPANY
LOAD STUDY
LOW INCOME CUSTOMERS

<u>Rate Blocks</u>	<u>Low Income Customer Bills Falling Within Block</u>	<u>Percentage to Total Low Income Customer Bills</u>
0 - 30	57	.9
31 - 70	150	2.4
71 - 200	1,048	16.7
201 - 500	3,030	48.1
501 - 1,500	1,953	31.0
Over 1,500	56	.9
Total	6,294	100.0

TABLE 36
LOW INCOME CUSTOMERS * OF SHALL
WEST VIRGINIA ELECTRIC UTILITY
ANNUAL USAGE PER MONTH, 1974 - 1975

Customer Number	1975												1974		Average Month KWH
	January KWH	February KWH	March KWH	April KWH	May KWH	June KWH	July KWH	August KWH	September KWH	October KWH	November KWH	December KWH			
1	650	468	360	556	492	420	417	387	420	1,033	472	855	540		
2	880	745	752	774	720	773	660	757	603	844	747	1,169	777		
3	-	284	142	1,698	1,076	1,019	1,029	1,000	914	-	-	-	555		
4	450	170	200	220	220	200	170	170	210	270	200	320	216		
5	469	395	339	404	393	377	487	401	335	330	398	353	390		
6	1,020	720	690	450	680	650	870	950	770	680	720	750	746		
7	590	348	374	435	494	322	452	360	460	322	404	462	419		
8	276	241	229	341	70	135	152	117	158	228	211	322	207		
9	348	213	160	216	260	245	250	500	170	240	210	220	253		
10	4,436	4,707	3,347	2,934	1,154	2,853	800	840	1,310	1,003	2,892	5,586	2,655		
11	380	600	1,510	1,310	350	290	250	250	190	310	350	300	524		
12	750	530	510	520	400	410	470	470	500	500	490	560	509		
13	4,320	2,845	3,043	2,474	1,594	1,341	1,389	1,076	1,284	500	2,156	3,108	2,069		
14	1,170	1,496	1,406	1,362	1,151	858	1,110	760	1,316	1,121	1,050	1,460	1,183		
15	3,880	2,970	2,150	2,110	700	600	897	1,065	838	790	1,390	3,130	1,710		
16	396	312	294	326	274	234	279	188	491	256	279	610	328		
17	46	41	18	60	61	65	86	56	70	58	38	50	54		
18	3,100	2,870	2,200	2,070	760	700	719	703	658	530	1,100	1,780	1,668		
19	3,570	3,650	2,830	2,380	570	770	700	561	571	1,460	2,320	3,480	1,922		
20	810	480	450	650	360	380	400	570	530	770	800	680	573		

Note: - Customers chosen on the basis of a random sample.

SUMMARY

As we have pointed out on several occasions within the body of this report, we have just begun to digest and categorize the great volume of material which has been collected in the course of our various rate design studies. We hope to report in the near future in more detail on the various questions and areas of study that have merely been highlighted in this report.

If we were to draw any conclusions from our study up to this point it would be that the changes in rate design should be approached in a careful and thoughtful manner, giving full weight to both cost responsibilities and non-cost factors which enter into rate design.

It is important that we realize the "balancing" effect of changes in rate design, in that changes that affect one group of customers can ultimately have compensating effects on another group of customers, some of which may not have been foreseen. Rate making and rate design must have the firm foundation of a cost of service study, allocating costs both between classes of customers and between usage groups within a customer class. While such a study only defines the broad limits of class rate structure, without it the Commission is faced with numerous and often conflicting suppositions.

It also is evident that rate making and rate design reform must be approached on a company by company basis since the cost factors and non-cost considerations vary widely between electric utilities. Any attempt to formulate broad based rate concepts that could apply to all of our electric utilities can only result in inadequate and improper rate designs.

BIBLIOGRAPHY

- Avery, George A., "Social Issues in the Design of Class Rate Schedules Rate Design", Symposium on Rate Design Problems of Regulated Industries, February 23-26, 1975, Kansas City, Missouri.
- California, State of. Public Utilities Commission, "Draft Report on Suggested Plan of Study on Time of Day Pricing of Electric Energy", To NARUC Subcommittee on Electricity, May 29, 1975.
- Carpenter, W. W., Vice President, Ebasco Services Incorporated to Great Lakes Conference of Public Utility Commissioners, "New Developments in Rate Design", July 14, 1975.
- Cohn, Herbert B., "Current Proposals in Rate Design", Public Utilities Fortnightly, December 18, 1975, pp. 21-26.
- Cudahy, Richard D., "New Rate Structures: Will the Future Work?".
- Cudahy, Richard D., "Some Thoughts on Rate Base and Rate Design", Public Utilities Fortnightly, November 20, 1975, pp. 21-25.
- Cudahy, Richard D., Chairman Public Service Commission of Wisconsin, "The Crossroads for Regulated Industry", The Wisconsin Utilities Association Management Conference, September 16, 1975.
- Cudahy, Richard D., Chairman Public Service Commission of Wisconsin, "Testimony Before the Consumer Affairs Committee of the Pennsylvania State Senate", July 10, 1975.
- Cudahy, Richard D., Chairman Wisconsin Public Service Commission, "Impact of Load Management--A Regulator's Perspective", Before the Federal Energy Administration Conference", June 12, 1975.
- Cudahy, Richard D., Chairman, Wisconsin Public Service Commission, "Madison Gas and Electric and Beyond", Before the 1975 NARUC Conference", June 17, 1975.
- Egg, Joseph C., "Economic Life Span of Power Production Units", September 11, 1975, Vol. 96 No. 6, page 22.
- "Economic Growth In Our Future", Executive Summary, EEI Publication No. 75-32, June, 1975.
- Electric Power Research Institute, Press Information, "Technical and Economic Assessment of Time of Day Pricing of Electricity", 1975.
- Electrical Week, LRIC and Peak Load Pricing, "Aicco's Joseph Clerry Finds British Power System Doesn't Use Marginal Costs", November 17, 1975, page 2.
- Electrical Week, "EEI and ERRI Peak-Pricing Study", July 21, 1975, pp.5-6.
- Electrical Week, "Federal Energy Stamp Experiments" etc., July 21, 1975, page 4.
- Electrical Week, "Federal Funding For Time-of-Day Metering", October 13, 1975, page 1.
- Electrical Week, "Hearing Told 'Life-line' Would Subsidize Virtually All Residential Usage", etc., July 21, 1975, page 1.
- Electrical Week, "California Studies Time-Of-Day Tariffs", October 27, 1975, page 1.
- Electrical Week, "Flattening of Rate Structures", October 6, 1975, page 2.
- Electrical Week, "Feasibility Study of Peak Load Pricing and Time-Of-Day Metering", November 17, 1975, page 4.
- Electrical Week, "Wisconsin Proposals for Subsidies for the Poor", September 1, 1975, page 1.

- Electrical Week, "North Carolina Peak-Pricing Study", July 21, 1975, page 4.
- Electrical Week, "Officers of Struggling Orange and Rockland Hit by FPC for Interlocks", September 22, 1975, page 1.
- Electrical Week, "Ohio Legislative Joint Committee Urges Stricter Controls on Fuel Clauses", etc., July 21, 1975, page 4.
- Electrical Week, "Wisconsin PSC's Peak-Pricing Rule", October 20, 1975, page 3.
- Electrical Week, "Discounts for Certified Poor", November 3, 1975, page 8.
- Electrical Week, "Demand Rates as Applied to Electric Heating Users", October 27, 1975, page 3.
- Electrical Week, "Residential Demand Charges Time-Of-Day Rate Tests In Colorado", October 6, 1975, page 7.
- Electrical Week, "Wisconsin Proposals Regarding Industrial Peak Load Pricing", October 6, 1975, page 3.
- Electrical Week, "Retailers' Group Bids Members Battle for Fair Shake in Rate Structures", etc., July 21, 1975, page 5.
- Electrical Week, "SCE Unilaterally Proposes a 'Lifeline' Type Subsidy for Low Power Usage", July 28, 1975, page 1.
- Electrical Week, "Residential Peak Load Pricing and Dual-Register Meters", September 22, 1975, page 3.
- Electrical Week, "Wisconsin Electric Files 'Preliminary' Time-Of-Day Rates for All Customers", September 15, 1975, page 3.
- Electrical Week, "Flattening of Historic Rate Designs", July 14, 1975, page 4.
- Electrical Week, "Wisconsin PSC Proposes Rule Requiring Time-Of-Day Rates for Industrials, etc.", September 1, 1975, page 3.
- Electrical Week, "Popularity of Lifeline Concepts", September 29, 1975, page 1.
- Ellingson, Ernest, "What is this thing called long-run incremental cost and what do you do with it?", Symposium on Rate Design Problems of Regulated Industries, February 23-26, 1975, Kansas City, Missouri.
- Energy Finance Week, "California PUC Suggests Peak-Load Pricing", July 30, 1975, Vol. 1, No. 13, page 7.
- Energy Finance Week, "Fallacies in Lifeline Concepts", July 16, 1975, Vol. 1, No. 11, page 5.
- Energy Finance Week, "Nera Economists Push Marginal Cost Pricing Before New York PSC", July 9, 1975, Vol. 1, No. 10, pp. 4-5.
- Energy Finance Week, "Peak Load Pricing", July 23, 1975, Vol. 1, No. 12, page 8.
- Federal Energy News, "FEC Authorizes \$1.2 Million for Electric Utility Efficiency Demonstration Projects", April 30, 1975.
- Federal Power Commission, "All Electric Homes in the United States, Annual Bills, Cities of 50,000 and More", January 1, 1974.
- Federal Power Commission, United States of America, "Comments of the National Association of Regulatory Utility Commissioners", Docket Number RM 75-19, June 2, 1975.
- Ferguson, John S., "Building Blocks of Rates - Revisited", Public Utilities Fortnightly, November 20, 1975, pp. 38-43.

- Financing the Electric Utility Industry, "Conclusions of a Study by Dr. Murray T. Weidenbaum for Edison Electric Institute", September, 1974.
- Herz, Henry, "Cost and Non-Cost Factors in Designing Public Utility Rates", Symposium on Rate Design Problems of Regulated Industries, February 23-26, 1975, Kansas City, Missouri.
- International Energy Engineering Congress and Exposition, "Ratemaking for Electric Service Using Peak-Load Pricing", February, 1975.
- Jaffee, Bruce L., "Future Changes in Electric Utility Rate Structures", Public Utilities Fortnightly, April 10, 1975, pp. 25-30.
- Jefferson, W. J., New Developments in Utility Rate Design, July 14, 1975.
- Jefferson, W. J. and Climer, J. H., "Is There a Relationship Between Income and Energy Consumption In the Residential Customer?"
- Joskow, Jules, "What Comes Next In Retail Electric Rate Policies?", Public Power, July - August, 1975.
- Kahn, Hon. Alfred E., "A Regulatory Evaluation".
- Kahn, Alfred E., "Efficient Rate Design: The Transition from Theory to Practice", Symposium on Rate Design Problems of Regulated Industries, February 23-26, 1975, Kansas City, Missouri.
- MacNicholas, Henry R., Esq., "Main Brief of Airco, Inc. and Monsanto Company", Before the Public Utilities Commission of the State of California, Case No. 9804.
- Maynard, Theodore E., National Utility Service, Inc., "Utility Cost Analysis", April 16, 1975.
- Measures for Reducing Energy Consumption for Homeowners and Renters, Office of Energy Systems, Federal Power Commission, March, 1975.
- National Association of Regulatory Utility Commissioners, "1974 - Report of the Committee on Electric and Nuclear Energy".
- National Association of Regulatory Utility Commissioners, "1974 - Report of the General Counsel on Economics".
- National Association of Regulatory Utility Commissioners, Bulletin, "Elec. Rate Reform in California", March 31, 1975, NARUC No. 13-1975, page 10.
- National Association of Regulatory Utility Commissioners, Bulletin, "Florida PSC Approves Time-Of-Day Electricity Pricing Experiment", October 13, 1975, NARUC No. 41-1975, page 23.
- National Association of Regulatory Utility Commissioners, Bulletin, "Fuel Charges Drop for New Jersey Elec. Utilities", December 1, 1975, NARUC No. 48-1975, page 1.
- National Association of Regulatory Utility Commissioners, Bulletin, "House Report Criticizes Fuel Adj. Clauses", October 13, 1975, NARUC No. 41-1975, page 24.
- National Association of Regulatory Utility Commissioners, Bulletin, "Governor of New Jersey Says 'Lifeline' Won't Help Poor", August 25, 1975, NARUC No. 34-1975, page 23.
- National Association of Regulatory Utility Commissioners, Bulletin, "Maine PUC Proposes Time-Of-Day Pricing for Electric Utilities", October 13, 1975, NARUC No. 41-1975, page 13.
- National Association of Regulatory Utility Commissioners, Bulletin, "Missouri PSC Chairman Says Elec. Rate Changes Necessary", June 23, 1975, NARUC No. 25-1975, page 8.

- National Association of Regulatory Utility Commissioners, Bulletin,
"N. Y. PSC Announces Adoption of Conservation Report by
Consolidated Edison Co. of N. Y., Inc.", September 8,
1975, NARUC No. 36-1975, page 24.
- National Association of Regulatory Utility Commissioners, Bulletin,
"Flattening Rate Structures", October 13, 1975, NARUC No.
41-1975, page 23.
- National Association of Regulatory Utility Commissioners, NARUC No. 33-
1974, August 19, 1974, pp. 13-16, 25-26.
- National Association of Regulatory Utility Commissioners, NARUC No. 13-
1975, March 31, 1975, pp. 9-10, 19-26.
- National Association of Regulatory Utility Commissioners, NARUC No. 13-
1975, April 14, 1975, pp. 7-10, 23-24.
- National Association of Regulatory Utility Commissioners, NARUC No. 13-
1975, April 21, 1975, pp. 2, 9-26.
- National Association of Regulatory Utility Commissioners, NARUC No. 14-
1975, April 7, 1975, pp. 11-22.
- National Association of Regulatory Utility Commissioners Resolution No. 9,
"A Suggested Plan of Study in Response to NARUC Resolution
No. 9 Concerning Electric Utility Ratemaking".
- National Economic Research Associates, Inc., "Cost Adjustment Clauses".
Before the Western Conference of Public Service Commissions,
June 11, 1975.
- New Jersey, State of, Department of Public Utilities, Board of Public
Utility Commissioners, "Press Release - Jacobson Says 'Life-
line' Won't Help Poor", May 14, 1975.
- New York, State of, Public Service Commission, "Annual Report, Year
Ended December 31, 1974", PSC Gas - Water - Power Communica-
tions.
- New York, State of, Public Service Commission, "S. C. No. 1 (Residential
and Religious)", Case 26538 - Consolidated Edison Company
of New York, Inc. - Electric Rates, Issued April 28, 1975,
Opinion Number 75-9, page 50.
- New York, State of, Public Service Commission, "Seasonal Rates", Case
26538 - Consolidated Edison Company of New York, Inc. -
Electric Rates, Issued April 28, 1975, Opinion Number 75-9,
page 38.
- New York, State of, Public Service Commission, "Time-Of-Day Metering",
Case 26538 - Consolidated Edison Company of New York, Inc.,
Electric Rates, Issued April 28, 1975, Opinion Number 75-9,
page 40.
- Pace, Joe D., "Lifeline Rates and Energy Stamps", Presented at NERA Con-
ference on Peak-Load Pricing and Lifeline Rates at the Waldorf
Astoria, New York, New York, June 17, 1975.
- Pace, Joe D., "The Poor, the Elderly and the Rising Cost of Energy",
Reprinted from Public Utilities Fortnightly, Washington, D.C.,
June 8, 1975.
- Phillips, Charles F. Jr., "The Evolution of Utility Pricing", Symposium
on Rate Design Problems of Regulated Industries, February 23-
26, 1975, Kansas City, Missouri.
- Public Power, September - October, 1975, issue - Outlook and Insights.
- Sarikas, Robert H., "Incremental Cost Pricing: Answer to Profitability
and Resource Allocation", Symposium on Rate Design Problems
of Regulated Industries, February 23-26, 1975, Kansas City,
Missouri.

- Loan, Allan, "Experimenting With Time-Of-Day Electric Rates", New York Times, June 29, 1975.
- State Government News, "Electric Rates Shock Customers", May, 1975, pp.8-9
- Stuart, Reginald, "Coping with Power Peaks", New York Times, August 10, 1975.
- Stuart, Reginald, "Utility - Regulation Reform", New York Times, December 8, 1974.
- Summary of Trends in Electric Utility Rate Cases, Summarization of Information Reported from a Questionnaire, "Trends in Electric Utility Rate Cases".
- Tanner, James, "Rates From 'The' Cost Study Or 'A' Cost Study?", Symposium on Rate Design Problems of Regulated Industries, February 23-26, 1975, Kansas City, Missouri
- "The Challenge of Load Management", Conservation Paper No. 24, FEA - Sponsored June, 1975, Load Management Conference.
- U. S. News and World Report, "Trend of American Business", June 9, 1975.
- Wenders, John T., "The Misapplication of the Theory of Peak-Load Pricing to the Electric Utility Industry", Public Utilities Fort-nightly, December 4, 1975, pp. 22-27.
- Wisconsin, State of, Public Service Commission, "Wisconsin Commission Issues Rule on Rate Reform", August 15, 1975.

APPENDIX A-2

Extract From

Public Service Commission of West Virginia
Division of Accounts, Finance and Rates
1st Supplemental Report to the Commission on
Electric Rate Design Studies

January 20, 1976

LIFELINE RATES

In our studies of lifeline rates we have very seriously considered the question: "What group of customers is intended to be helped by lifeline rates?"¹ So far, we have been unable to determine any direct relationship between low income levels and low usage of electrical energy. In addition, we have seen no workable lifeline proposals that distinguish between low level users who should receive subsidization and low level users who would be considered to be above the income level of the economically disadvantaged. Conversely, we realize that many high level users of electricity might well fall into an income bracket that would have them considered as among the economically disadvantaged. To the extent that many lifeline proposals would present high level users with higher bills than those they would receive under non-lifeline rates, some of the very people which lifeline proponents want to help would be burdened.

We have revised Table 21, Page 30 of our original report to demonstrate the relationship between total customer usage patterns and low-income customer usage patterns.

Appalachian Power Company
Bill Frequencies

Rate Blocks	Total Customer Bills Falling Within Block	Low Income Customer Bills Falling Within Block	Percentage to Total	
			All Bills	Low Income
0 - 30	78,060	371	2.3	1.2
31 - 70	73,837	622	2.2	1.9
71 - 200	390,088	6,131	11.5	19.0
201 - 500	1,188,573	14,611	34.9	45.3
501 - 1,500	1,390,021	9,418	40.9	29.2
Over 1,500	282,017	1,080	8.3	3.4
Totals	<u>3,402,596</u>	<u>32,233</u>	<u>100.0</u>	<u>100.0</u>

A study of this Bill Frequency Analysis shows us that the low income group identified as customers of Appalachian Power Company generally fall into usage categories only slightly smaller than the total residential group. More important, of the 541,985 total bills rendered that shows consumption between 0 and 200 kWh, only 7,124 were identified in our low income study. After adjusting the low income number to reflect a 100% sample, we find that of approximately 45,000 customers in Appalachian's West Virginia Service Area that used from 0 to 200 kWh, about 1,030 or slightly less than 2.3% were included in the low income study group.

¹ December 11, 1978, Staff Report on Rate Design, pp. 21 and 27.

We, of course, realize that many who would be considered economically disadvantaged, including the elderly and disabled, may not have been included in our welfare and food stamp group. Nevertheless, it still appears that there would be many thousand low usage customers who would not be included in any economically disadvantaged group.

In connection with our studies into lifeline rates we have relied not only on similar work being done in other States, but have compiled actual data that applies to West Virginia customers. It would be nearly impossible to reproduce all of the information that we have compiled and if we did, the resulting report would contain thousands of pages. Our files on low income electric customers alone contain over 9,000 individual customer account records including over 103,000 monthly billing determinants. We have, nevertheless, attempted to evaluate all of this data in order to arrive at possible conclusions regarding various lifeline proposals.

One of the special studies which we conducted deals with the effect of various lifeline proposals on residential customers of Appalachian Power Company. Basically, we approached this study as follows:

1. Determine customer billings by rate blocks for total residential customers and low income residential customers. (Schedule 1)
2. Determine the effect on revenues under two lifeline proposals.
 - (a) 500 KWH @ 3¢
 - (b) 200 KWH @ 3¢
 (Schedule 2)
3. Calculate new rates for each of the two lifeline proposals assuming that the revenue deficiency from Schedule 2 could be recovered from remaining residential customer in one of three ways:
 - (a) In next rate block
 - (b) In all remaining rate blocks
 - (c) In last two rate blocks
 (Schedule 3)
4. Determine the effect of various lifeline proposals on total low income group. (Schedule 4)

It is apparent from reviewing the following schedules that studies of actual data closely approximate the hypothetical approach which we took in our original report. The schedules themselves are self-explanatory and contain data that can be restated in several forms for purposes of specific evaluation.

APPALACHIAN POWER COMPANY
CALCULATION OF NEW RATES FOR LITELINE
IF FIRST 500 KWH @ 3¢

	<u>Minimum</u>	<u>First 500</u>	<u>Next 1,000</u>	<u>Over 1,500</u>
(1) <u>Recover Deficiency</u> <u>In Next Rate Block</u>				
Billing Determinants	174,867	1,305,794,869	703,841,367	305,086,543
Rate	\$ 2.50	\$.03000	\$.048585	\$.02504
Revenue	\$437,168	\$ 39,173,846	\$ 34,196,120	\$ 7,639,367
	\$81,446,511			
(2) <u>Recover Deficiency</u> <u>Over Remaining Blocks</u> (\$.014835 to Each)				
Rate	\$ 2.50	\$.03000	\$.042155	\$.039875
	\$437,168	\$ 39,173,846	\$ 29,670,430	\$ 12,165,326
	\$81,446,770			
(3) <u>Recover Deficiency</u> <u>Over Last 2 Blocks</u>				
<u>Same As (2)</u>				

APPALACHIAN POWER COMPANY
CALCULATION OF NEW RATES FOR LIFELINE
IF FIRST 200 KWH @ 3¢

Minimum	First 200	Next 300	Next 1,000	Over 1,500
174,867	625,285,176	680,509,743	703,841,307	305,086,543

Billing Determinants

- (1) Recover Deficiency
in Next Rate Block
(@ .070114)

Rate	Revenue
\$ 2.50	\$.03000 \$.051994 \$.07732 \$.02504
\$437,168	\$18,758,554 \$35,382,424 \$19,228,945 \$ 7,639,367 \$81,446,458

- (2) Recover Deficiency
Over Remaining Blocks
(\$1,000 @ each)

Rate	Revenue
\$ 2.50	\$.03000 \$.039982 \$.035422 \$.031142
\$437,168	\$18,758,554 \$27,206,141 \$24,931,467 \$10,111,170 \$81,446,508

- (3) Recover Deficiency
Over Last 2 Blocks
(\$1,000 @ each)

Rate	Revenue
\$ 2.50	\$.03000 \$.03108 \$.040887 \$.038607
\$437,168	\$18,758,554 \$21,694,651 \$28,777,960 \$11,778,476 \$81,446,809

Schedule 4
Sheet 1 of 2APPALACHIAN POWER COMPANY
EFFECT ON TOTAL REVENUES OF LOW INCOME SAMPLE
CUSTOMERS FOR VARIOUS LIFELINE PROPOSALS

First 500 @ 3¢	Bills	KWH	Minimum	First 500	Next 1,000	Over 1,500	Total	Case No. 8182 Revenue	Difference	Percent
0 - 80	1,304	60,478								
85 - 500	20,431	5,758,265		5,758,265						
505 - 1,500	9,418	7,153,403		4,709,000	2,444,403					
Over 1,500	1,080	2,695,217		540,000	1,080,000	1,075,017				
(1) Recover Deficiency in Next Rate Block	32,233	15,667,163	1,304	11,007,265	3,524,403	1,075,017				
Revenue		\$ 2.50	\$.03000	\$.048585	\$.02504					
(2) Recover Deficiency Over Remaining Blocks		\$3,260	\$330,218	\$171,233	\$26,918	\$531,629	\$596,040	(\$64,411)	10.8%	
Revenue		\$ 2.50	\$.03000	\$.042155	\$.039875					
(3) Recover Deficiency Over Last 2 Blocks		\$3,260	\$330,218	\$148,571	\$ 42,866	\$524,915	\$596,040	(\$71,125)	11.9%	

Same as (2)

APPALACHIAN POWER COMPANY
EFFECT ON TOTAL REVENUES OF LOW INCOME SAMPLE
CUSTOMERS FOR VARIOUS LIFELINE PROPOSALS

First 200 @ 3c	Bills	KWH	Minimum	First 200	Next 300	Next 1,000	Over 1,500	Total	Case No. 8182 Revenue	Difference	Percent
0 - 80	1,304	60,478									
85 - 200	5,840	847,415		847,415							
205 - 500	14,611	4,910,850		2,922,200	1,988,650						
505 - 1,500	9,418	7,153,403		1,883,600	2,825,400	2,444,403					
Over 1,500	1,080	2,695,017		216,000	324,000	1,080,000	1,075,017				
	32,233	15,667,163	1,304	5,869,215	5,138,050	3,524,403	1,075,017				
(1) Recover Deficiency in Next Rate Block			\$ 2.50	\$.03000	\$.051994	\$.02732	\$.02504				
Revenue	\$3,260	\$176,076	\$267,148	\$ 96,287	\$ 26,918	\$569,689	\$596,040	(\$26,351)	4.4%		
(2) Recover Deficiency Over Remaining Blocks			\$ 2.50	\$.03000	\$.039982	\$.035422	\$.033142				
Revenue	\$3,260	\$176,076	\$205,430	\$ 124,841	\$ 35,628	\$545,235	\$596,040	(\$50,805)	8.5%		
(3) Recover Deficiency Over Last 2 Blocks			\$ 2.50	\$.03000	\$.03188	\$.040867	\$.038607				
Revenue	\$3,260	\$176,076	\$163,891	\$ 144,102	\$ 41,503	\$528,742	\$596,040	(\$67,298)	11.3%		

Before this, our discussion of \mathbb{H}^n -actions, there are several points that we would like to make about:

Alma and Dick Linscott, were was a footnote to Table 20, Page 29 of our original report which indicated that certain companies were deficient in filing information for our radi studies. Actually, this was a poor choice of words since all of the companies filed data with us in one form or another. What we meant to say was that the companies indicated had not, at the time of filing that report, provided us with summary data in the form used for Table 20. We spent considerable time, for example, talking with officials of Hawaiian Rural Electrification Association and Hawaiian Tanning Light and Power Company with regard to their studies of bull frequency which are important for our radi design studies. These companies did, in fact, file data with us prior to December 10, 1976 and have spent many hours in reviewing and summarizing their data.

We would also like to point out that we have made some detailed reviews of the effect of utility rates by individual customers on a monthly basis. Even though we randomly choose only 40 customers for this study the volume of work paper is quite large. The results of the study of individual customers does not lead us to any conflicting conclusions in view of our other studies and it is not included here; but details of the time element. Our work papers on individual customers are available for the Commission's review at any time.

as a final word on lifeline rates and their social implications. We would like to point out that economically disadvantaged citizens of our State that qualify for welfare and food stamp assistance are now receiving allowances for utility expenses and advised that in December, 1988 and prior thereto, a family of four, under the Public Assistance Cost Standard used by our Department of Welfare, received benefits which included a utility allowance of approximately \$27.00 per month. Effective January, 1989, the utility portion of the Public Assistance Cost Standard was raised to \$30.00 per month. Furthermore, it is our understanding that the Department of Welfare is currently considering assistance programs which would include a large increase for utility expenses. Certainly, in Staff's opinion, this appears to be a sensible approach in providing aid to low income families and the disadvantageous for welfare removal is that such would provide assistance to many higher income families who are eligible on the basis of the vast expense that results and

nera

NATIONAL ECONOMIC RESEARCH ASSOCIATES, INC.
NEW YORK WASHINGTON PHILADELPHIA LOS ANGELES

STATEMENT OF

Joe D. Pace, Vice President
National Economic Research Associates, Inc.

SUBMITTED TO

Subcommittee on Energy and Power
Committee on Interstate and Foreign Commerce
United States House of Representatives

April 1, 1976

STATEMENT OF
JOE D. PACE, VICE PRESIDENT
NATIONAL ECONOMIC RESEARCH ASSOCIATES, INC.
SUBMITTED TO THE
SUBCOMMITTEE ON ENERGY AND POWER
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE
UNITED STATES HOUSE OF REPRESENTATIVES
APRIL 1, 1976

SUMMARY AND CONCLUSIONS

My name is Joe D. Pace. I am an economist and a vice president of National Economic Research Associates, Incorporated (NERA), a firm of consulting economists with its principal office in New York City and other offices in Los Angeles, Philadelphia, Salt Lake City and Washington, D.C. My educational and professional background is set forth in Appendix I.

The research on which my testimony is based has been made possible by 13 electric utilities which jointly support research on a wide variety of industry problems¹ and by several individual utilities in whose rate cases I have been involved. However, the views expressed in my statement are my own and do not necessarily reflect the position of any individual utility.

¹ The 13 utilities are: General Public Utilities Corporation, Long Island Lighting Company, New England Electric System, Northeast Utilities, Pacific Gas & Electric Company, Pacific Power & Light Company, Pennsylvania Power & Light Company, Public Service Company of Colorado, Public Service Company of New Mexico, San Diego Gas & Electric Company, Tampa Electric Company, Virginia Electric & Power Company, and Wisconsin Electric Power Company.

I have been asked to address Paragraph 3, Section 203(a) of H. R. 12461. This is the so-called "lifeline" provision of the bill that has as its apparent objective assisting low-income residential consumers in meeting the burdens imposed upon them by rising electricity prices. While this Section focuses on a problem that is both real and significant, it does not provide an effective or efficient solution to that problem. Therefore, the lifeline provision of H. R. 12461 should be rejected.

Recognizing that the lifeline provision of H. R. 12461 is part of a comprehensive rate reform package slated for introduction in two years, admittedly it is difficult now to evaluate with precision its potential impact on various customer groups. However, the general outline is clear.

First, it is clear that H. R. 12461 would mandate a substantial rate reduction on approximately the first 100 kilowatt-hours per month used by each residential electric customer without regard to whether the customer's income is \$4,000, \$40,000 or \$400,000 per year. Thus, despite the apparent objective of helping low-income consumers, under H. R. 12461's lifeline provision, approximately two-thirds of the rate reduction would go to those whose incomes are over twice the federal poverty level.²

² The current federal poverty level for a nonfarm family of four is \$5,050.

Second, it is clear that H. R. 12461 would deny any lifeline benefits to customers who do not pay their own electricity costs directly but have such costs included in their rent payments. Indeed, as is often the case, if the landlord is billed on a commercial rate schedule for the combined electricity use of the renting households, lifeline rate restructuring is likely to increase the landlord's electricity costs and thus result in a higher rent requirement. This problem is of considerable significance. Census data indicate that on a national basis one out of every eight low-income families has its electricity costs included in rent and thus should expect to see its living costs increased as a result of lifeline rate restructuring.

Third, the amount of the rate reduction provided to residential customers under H. R. 12461's lifeline provision seems likely to vary greatly and arbitrarily from one area to another. For example, using present rate schedules as a guide, the reduction on the first 100 kilowatt-hours per month would be \$6.75 on the Jersey Central Power and Light Company system, but only \$3.28 on the Public Service Company of Colorado system. Such variations bear no discernible relationship to need.

Fourth, depending on the way the lifeline section of H. R. 12461 is interpreted--and at present this is quite unclear--it will require at least the first 100 kilowatt-hours per month to be provided to each residential customer at a

rate even below the marginal energy cost of serving such customers. Such a rate obviously will make no contribution to the costs of meter reading, customer accounting or the operation and maintenance of the distribution system necessarily associated with the lifeline service. Moreover, H. R. 12461 leaves the way open for individual states to increase substantially the consumption levels covered by the below-cost lifeline rate. Such increases must be anticipated since most observers cite 300 kilowatt-hours per month as the minimum necessary level of consumption.

Who will pay for this? In the face of the comprehensive rate adjustments mandated by H. R. 12461, exactly what other rates would be raised and by how much cannot be known. However, the general tendency will be for the lifeline rate restructuring to shift rate burdens to high-use residential customers and to commercial and industrial customers. The widely held belief is that low-income consumers almost always use small amounts of electricity and thus unambiguously will benefit from lifeline rate restructuring. What this overlooks is that a large number of low-income consumers utilize electricity for space heating, for water heating and cooking or for farm uses and thus will not be small users of electricity no matter how conservative they may be. Data we have extracted from the 1970 Census material indicate that, as a result of these uses as well as the electricity included in rent problem, a lifeline rate plan that

focuses benefits on low-use residential customers will bypass over one-half of the poor in 14 states and over one-fourth of the poor in 25 additional states.

Beyond this, some low-income consumers ultimately may suffer as a result of the potentially uneven impact of H. R. 12461's lifeline provision on commercial and industrial customers located in different areas. If all or a large part of the lost lifeline revenue is recovered through commercial and industrial rates, areas now having a relatively thin industrial base will tend to be disadvantaged in competing to attract new firms to the area. This will result from the simple fact that where there are few industrial customers, the lifeline offset burden borne by each will be greater. Clearly, the loss of even one potential employer to a given area may more than counterbalance any lifeline benefit enjoyed by the low-income consumers in that area.

Finally, it is clear that customers served by the great majority of the nation's rural electric cooperatives, a large fraction of the municipal electric systems, and some investor-owned systems will not be covered by H. R. 12461's lifeline provision due to the small size of those systems. However, to the extent that the prices of the products they buy increase to reflect higher commercial and industrial electricity rates necessitated by the imposition of lifeline rates elsewhere, the customers of such small systems will pay for part of the costs of the lifeline benefits enjoyed by

others. Our best estimate is that one out of every eight residential customers in the United States are served by these small systems.

In sum, it should be clear that the manipulation of electricity rate structures does not offer an effective way to redistribute real income to the poor. The Congress should turn to other alternatives for achieving a meaningful solution to this problem and reject the lifeline provision of H. R. 12461.

I. INTRODUCTION

Paragraph 3, Section 203(a) of H. R. 12461 is in many respects a classic lifeline rate proposal. Under the lifeline concept developed originally by the Vermont Public Interest Research Group in 1973 and applied to electricity rates, the first several hundred kilowatt-hours consumed monthly by each residential customer would be provided at a low uniform charge per kilowatt-hour. The Vermont Group proposed that the first 300 kilowatt-hours be provided to all year-round residential customers at a flat rate of 3 cents per kilowatt-hour. During the past several years, legislation aimed at instituting lifeline plans essentially similar to the Vermont concept has been introduced in a number of states and become law in California. The salient features of some of these legislative proposals are set forth in Table I. As indicated there, the level of consumption to which the lifeline rate is to be applied varies from proposal to proposal; however, the 300 kilowatt-hour level often is cited as adequate to meet the needs of a customer who has only the basic, "no frills" appliances and who does not have electric space heating, water heating, cooking or air conditioning. Whatever the specific level proposed in a given area, lifeline is said to assure each residential customer that he can obtain at an extremely low fixed rate what, in theory at least, is his minimum necessary electricity requirement.

The lifeline proposals which address the issue also provide that revenues lost as a result of lowering rates for "minimum necessary use" may be recovered in an "equitable" manner by increasing the rates applied to residential consumption beyond the lifeline level and to commercial and industrial use. The lifeline rate approach thus generally will yield a partially inverted residential rate structure and will increase commercial and industrial rates.

H. R. 12461 specifies that a low fixed rate must be provided to cover the minimum subsistence amount of electricity required for lighting and refrigeration. This would amount to about 100 kilowatt-hours per month, or one-third the minimum consumption level most typically proposed in lifeline plans offered at the state level. Individual state regulatory authorities are not precluded, however, from increasing the consumption level to which the lifeline rate would apply. Indeed, it is reasonable to anticipate that states will accept the implicit invitation in H. R. 12461 to increase the lifeline level to more realistic minimum levels.

No single uniformly available rate is fixed for the lifeline level of electricity consumption. Instead, H. R. 12461 specifies that the lifeline rate shall not exceed "the lowest charge per kilowatt-hour at such time of use (excluding demand, capacity, and customer charges) to any other electric consumers...to whom electric energy is sold by such utility." Thus the lifeline rate apparently is pegged to the lowest

energy rate offered to any customer³ and accordingly may vary significantly from one utility to another. Given the marginal cost pricing standards that would be imposed by the other provisions of H. R. 12461, the lowest nonlifeline rate presumably would equal the marginal cost associated with service provided at transmission voltages. Since there are substantial additional energy losses associated with low voltage delivery to residential customers, the lifeline provision of H. R. 12461 in effect seems to mandate that the rate charged for the first 100 kilowatt-hours of residential consumption per month must be below the marginal energy costs of residential service. Obviously, such a rate would make no contribution to the costs of meter reading, customer accounting and operation and maintenance of the distribution system that also must be incurred in the provision of residential service.

Since the introduction of a lifeline provision does not alter the utility's overall revenue requirement, any lowering of rates for the first 100 kilowatt-hours of residential use per month (or more if so determined by regulatory authorities) must be offset by increases in other rates to levels closer to or even above marginal costs. In the face

³ It is not at all clear how the phrase "at such time of use" is to be interpreted. Presumably, large industrial rates will vary by time of day, while residential rates will not. Will the lifeline level be pegged to the average of the rates applicable to different times of day, or to the lowest rate?

of the comprehensive rate restructuring mandated by H. R. 12461, exactly what rates would be raised and by how much cannot be known. However, given the existing distributions of consumption on various electric utility systems (which seem unlikely to change significantly over a two-year period), for any given reduction in the rate applicable to the first 100 kilowatt-hours of each residential customer's monthly consumption, the required increases in other rates can be calculated under various revenue recovery assumptions. This analysis is presented below.

II. THE RATE EFFECTS OF H. R. 12461's LIFELINE PROVISION

In order to permit an assessment of the impact on various customer groups of the lifeline provision of H. R. 12461, a number of our clients have provided us with data indicating the total number of kilowatt-hours that would be affected by a rate reduction on the first 100 kilowatt-hours utilized monthly by each residential customer and the total number of kilowatt-hours sold to each customer class. With this information, the effect on total revenues of any specified reduction in the rates applicable to the first 100 kilowatt-hours of monthly consumption can be calculated. Following this, the increases required in other rates in order to offset the lost lifeline revenue and the impact of such rate changes on various groups of customers can be determined. These utilities also supplied data showing the present bill charged for 100 kilowatt-hours of residential use and the lowest energy rate now applicable to any retail customer. These data permit one to determine how the lifeline provision of H. R. 12461 would impact if it were applied to present rate structures. Three lifeline recovery assumptions are analyzed. First, all nonlifeline kilowatt-hour sales are assumed to be increased by a uniform amount per kilowatt-hour over the rates that otherwise would be charged in order to recover the lost lifeline revenue. Second, only nonresidential rates are assumed to be increased as a result of the lifeline rate restructuring. Finally, the lifeline rate is assumed to result in an

increase only in residential rates applicable to usage beyond the lifeline level.

For convenience, throughout the rate discussion, data specific to the Long Island Lighting Company (LILCO) will be used. Data relating to the other utilities we examined are summarized in Tables II, III and IV.

A. Revenue Recovery From All Nonlifeline Retail Sales

Data furnished by LILCO for the year 1975 show that the Company sold 910 million kilowatt-hours at the rate applicable to the first 100 kilowatt-hours of residential use per month. This constituted 17 percent of LILCO's total residential kilowatt-hour sales during this period and 8 percent of its total kilowatt-hour sales to ultimate customers.

For every 1 cent per kilowatt-hour reduction in rates applicable to the 100 kilowatt-hour lifeline consumption level, LILCO's lifeline revenue loss would come to \$9.1 million (910 million kilowatt-hours x 1.00 cent per kilowatt-hour). To offset this by an equal per kilowatt-hour surcharge on all nonlifeline residential, commercial and industrial sales, an additional charge of 0.84 mills per kilowatt-hour would be required on the 10.8 billion kilowatt-hours sold to residential customers above the 100 kilowatt-hour a month level and to other retail customers.

Given these figures, the impact on various customer groups now can be assessed in detail. A residential customer

who used only 100 kilowatt-hours per month, of course, would find his electricity bill reduced by \$1.00 for every 1 cent reduction in the lifeline rate. A more typical residential customer consuming, say, 500 kilowatt-hours per month would save \$1.00 on the first 100 kilowatt-hours and would pay 0.84 mills per kilowatt-hour or \$0.34 more for the additional 400 kilowatt-hours. Thus, although the lifeline rate applies only to the first 100 kilowatt-hours per month, the typical residential customer using five times this amount actually would find his total electricity bill reduced by \$0.66 per month for every 1 cent reduction in the lifeline rate. A little mathematical exercise reveals that the breakeven point is approximately 1,300 kilowatt-hours--that is, a residential customer using less than this amount would experience a reduction in his total electricity bill; those consuming more would face increased bills. Those enjoying reductions include the vast majority of LILCO's residential customers, but not all of them.

Two residential customer groups would tend to face increased costs as a result of the institution of such a lifeline rate plan. The first group would include those employing electric space heating. The average total electric customer served by LILCO uses roughly 1,600 kilowatt-hours per month. Such a customer's total electricity bill would increase by \$3.12 annually for every 1 cent decrease in the lifeline rate. The second group that may use large amounts of electricity and be classified as residential customers are

farmers (although this would not be significant on the LILCO system). Farm use tends to be high both because additional energy is required to operate farm equipment and because natural gas frequently has not been an available alternative in rural areas. Farm groups have recognized the implications of lifeline for them and, as a result, have opposed lifeline proposals both in Vermont and California.

All commercial and industrial customers obviously would face rate increases as a result of the institution of a lifeline rate provision with revenue recovery from all classes. In the LILCO case, such rates would increase by 0.84 mills per kilowatt-hour (about 1 percent) for every 1 cent decrease in the lifeline rate.

In sum, if all other rates are increased by a uniform amount per kilowatt-hour over what otherwise would be charged in order to offset the lifeline revenue loss, this merely will shift a substantial rate burden from the residential class as a whole to commercial, industrial and other retail classes. Some burden may be shifted to residential customers using electric space heating and possibly as well to farmers whose use is classed as residential consumption--at the least, those customers will enjoy no benefit.

Table II presents the results of these calculations for 16 operating utilities with widely differing geographic and cost characteristics. As shown there, for every 1 cent reduction in the rate applicable to the first 100 kilowatt-hours

of monthly residential use, the impact on other rates varies tremendously. The required imposition on other rates ranges from 0.34 mills per kilowatt-hour to 0.84 mills per kilowatt-hour; the breakeven point for residential customers ranges from 1,290 kilowatt-hours to 3,041 kilowatt-hours. On the Tampa Electric Company system, even a customer using electric space heating obviously would enjoy most of the available lifeline benefit; on other systems, such a customer would face a higher total electricity bill.

The bottom portion of Table II summarizes the impact on various rates that would occur if the lifeline provision of H. R. 12461 were applied to existing rates. As shown there, the savings on 100 kilowatt-hours per month would vary from a low of \$3.28 (excluding the California companies which now are operating under a lifeline law) to a high of \$6.75. The impact on commercial and industrial rates would range from 1.60 mills per kilowatt-hour to 3.9 mills per kilowatt-hour or, stated differently, the required rate increase would range from 4.6 percent to 11.1 percent.

B. Revenue Recovery From Nonlifeline Nonresidential Sales

In some cases, it has been suggested that the surcharge required to recover lost lifeline revenue be placed only on nonresidential customer classes. In this section, the rate implications of such a revenue recovery plan are set forth. Figures for LILCO will continue to be used for illustrative purposes. Under this plan, the lifeline revenue loss

per 1 cent lifeline rate reduction (\$9.1 million) does not change. As Table III shows, the only change results from the fact that the loss must be recovered by increasing the rates applied to fewer kilowatt-hours since no residential kilowatt-hours are included in the recovery scheme. To offset a \$9.1 million loss by an equal per kilowatt-hour surcharge on non-residential sales, an additional charge of 1.43 mills per kilowatt-hour would be required on the 6.3 billion kilowatt-hours sold to nonresidential customers. The required surcharge thus is 0.59 mills higher than under the all customer class recovery plan.⁴ For each 1 cent reduction in the lifeline rate, all residential customers using at least 100 kilowatt-hours per month would benefit by \$1.00.

In essence, this revenue recovery plan would eliminate the electric space heating customer and farmer difficulty while imposing substantially greater burdens on commercial and industrial rates. As Table III demonstrates, the increase required in nonresidential rates for the utilities analyzed would range from 0.50 mills to 1.43 mills per kilowatt-hour for every 1 cent lifeline rate reduction. If this provision were applied to present rates, the increase imposed on commercial and industrial rates would vary from 7.8 percent to 18.6 percent.

⁴ The 1.43 mill surcharge is 70 percent greater than the 0.84 mill surcharge discussed above.

C. Revenue Recovery From Residential Class Only

The final option considered here is that of drawing the required revenue recovery entirely from the residential class. In this way the cost burdens borne by each customer class as a whole would remain the same. Moreover, the surcharge added to each kilowatt-hour of residential use above the basic lifeline level would increase significantly since commercial and industrial sales would not be supporting the lifeline rate. Under a 100 kilowatt-hour lifeline plan, for every 1 cent reduction in the lifeline rate, if only residential sales were affected, on the LILCO system the charge for each kilowatt-hour over the 100 kilowatt-hour level would have to rise by 2.10 mills. (See Table IV.) Under these circumstances, a typical customer using 500 kilowatt-hours would save \$1.00 on the first 100 kilowatt-hours and would pay \$0.84 more for the additional 400 kilowatt-hours. On balance, then, his bill would decrease by only \$0.16. The breakeven point would be 576 kilowatt-hours--bills below this level would go down and bills above this level would go up. Table IV shows for each of the 16 utilities analyzed the results of such a revenue recovery scheme. Again, it should be clear that such a lifeline plan would impose very unequal burdens on similarly situated customers served by different utilities. The consumer of 1,000 kilowatt-hours per month would find his monthly bill reduced by 10 cents if he were served by the Pacific Power and Light Company, but increased by \$1.43 if he were served by the Public Service Company of Colorado.

In sum, the residential recovery approach eliminates any adverse effects on commercial and industrial rates and shifts the burden associated with lifeline rates to moderate and high-use residential customers. Unlike the two revenue recovery plans discussed previously, this plan would tend to restrict net benefits to residential customers whose use is below average. Therefore, if it is true that low-income customers are predominately low electricity use customers, then the residential recovery plan will focus benefits more sharply on low-income groups.

III. THE RATE IMPLICATIONS OF HIGHER LIFELINE LEVELS

While H. R. 12461 would mandate the introduction of lifeline rates only to cover electricity consumption for minimum lighting and refrigeration purposes, it leaves open the door for individual state regulatory authorities to increase that level. In light of the fact that there seems to be widespread agreement that something closer to 300 kilowatt-hours a month constitutes minimum necessary use, it seems realistic to anticipate that, if Congress extends the invitation, higher lifeline levels will be set. In this section, we explore briefly the implications of such an expansion of lifeline consumption levels.

For four utilities, past work in individual cases has provided us with billing data sufficiently complete to permit an analysis of a 300 kilowatt-hour lifeline plan. The results of this analysis are presented in Tables V, VI and VII. As those tables show, increasing the lifeline consumption level dramatically alters the impact on rates of the lifeline plan. A comparison of Tables V and VI with Tables II and III indicates that for every 1 cent reduction in the rate applicable to lifeline consumption, the per kilowatt-hour increase that must be imposed on other rates essentially triples with the 300 kilowatt-hour level, while the residential breakeven points change little. The net result is an enormous increase in the rate burden shifted from the residential class as a whole to commercial, industrial and other retail classes.

The point is that the lifeline provision of H. R. 12461 should not be viewed as portending only a trivial rate impact because of its direct focus on a lifeline consumption level solely for lighting and refrigeration uses. If the Congress establishes a policy presumption in favor of lifeline rates and opens the door to the setting of higher lifeline levels by state and local authorities, we must anticipate that higher levels will be established. The ultimate impact of H. R. 12461's lifeline provision then will be far from trivial.

IV. THE IMPACT OF H. R. 12461'S LIFELINE PROVISION ON COMMERCIAL AND INDUSTRIAL CUSTOMERS

The last two sections have set forth in detail the possible rate implications of lifeline restructuring. It is clear that the lifeline rate provision of H. R. 12461 in all probability will lead to higher commercial and industrial rates than otherwise would prevail. If the lifeline consumption level is increased, this burden on commercial and industrial customers may become especially heavy. But beyond this generalization, several other effects should be considered in assessing lifeline's impact.

First, it is clear that the less important commercial and industrial sales are now in a given utility's service territory, the greater is the rate increase required to offset the lost lifeline revenue. Thus, areas already enjoying the benefit of a rich industrial base may gain a further advantage in the attraction of more industry. For example, for every residential customer served by the Tampa Electric Company, the Company sells approximately 23,000 kilowatt-hours to non-residential customers. In contrast, the corresponding figure for LILCO is 9,000 kilowatt-hours. As a result, as Table III shows, for every 1 cent reduction in the rate applicable to the first 100 kilowatt-hours of each residential customer's monthly consumption, commercial and industrial rates need be increased by only 0.5 mills per kilowatt-hour on the Tampa Electric Company system, but must be increased by 1.43 mills per kilowatt-hour on the LILCO system.

Table III, which is limited to 16 fairly large electric utilities, by no means displays the full range of diversity among utilities in the relative importance of the commercial and industrial loads they serve. Federal Power Commission (FPC) statistics indicate that, for all Class A and B investor-owned utilities, for each residential customer, on average 17,197 kilowatt-hours are sold annually to nonresidential customers.⁵ However, even a cursory examination of the FPC statistics reveals a range of nonresidential sales from 5,242 to 51,990 kilowatt-hours per residential customer.⁶ Clearly, therefore, the impact of the lifeline provision of H. R. 12461 will not fall even handedly on all utilities. Those with relatively little commercial and industrial sales over which to spread lifeline revenue losses will be forced to burden their few commercial and industrial customers all the more heavily. If such rate increases were to occasion the loss of even one significant employer to the area, the adverse consequences of that loss might more than offset any lifeline benefits conferred on low-income customers in the area.

⁵ Federal Power Commission, Statistics of Privately Owned Electric Utilities in the United States, 1973, page 401.

⁶ Ibid., pages 401-428.

That this problem is a real one is indicated by the following report which appeared in the March 15, 1976 issue of "Electrical Week":

The Cal-Pac [California Pacific Utilities] official said determining "lifeline" levels for Lassen would be "difficult" because the small mountain town has few commercial and no industrial customers other than a few sawmills - "and one sawmill has already gone to self-generation." In addition, since natural gas isn't available there, "almost everybody has electric heat." The result, he said, is "the lifeline has to be a pretty big number."

Further, in assessing the impact of lifeline rate restructuring upon individual customer groups, it is useful to distinguish between commercial and industrial sales. Rate increases to commercial establishments will tend to be passed along in the form of higher prices for locally purchased goods and services. On the other hand, higher industrial electricity rates will tend to increase the prices of manufactured items which generally are distributed over much wider areas. In areas where commercial electricity sales are relatively significant but industrial sales are not, the lifeline revenue loss thus will be recovered largely through higher prices imposed on local customers. Moreover, customers in such areas will face higher prices on goods manufactured elsewhere as a result of the institution of lifeline rates in other areas. All else being equal then, rate burdens will be shifted from areas with a large industrial output to areas where manufacturing is less significant. While FPC data

indicate that for each residential customer served, on average, sales to large industrial customers amount to 10,245 kilowatt-hours annually, such sales range at least from a low of 1,019 kilowatt-hours to a high of 49,755 kilowatt-hours per residential customer served on various utility systems.⁷ This reemphasizes the fact that the lifeline provision of H. R. 12461 may have a very uneven impact on different areas.

Finally, it is worth pointing out that the surcharge necessitated by a lifeline rate adjustment is equivalent to levying a tax on each commercial or industrial firm according to the electricity intensiveness of its production process, rather than its total sales or profitability. This will serve to encourage firms to continue using scarce natural gas supplies where they can be obtained or to shift to the use of imported oil where possible rather than utilizing electric energy.

⁷ Ibid., pages 401-428.

V. THE BENEFICIARIES OF LIFELINE RATE RESTRUCTURING

In this section we review in some detail data indicating the proportion of low-income households that could be expected to derive no benefit or even be harmed by the institution of lifeline rates. The information relied upon here is drawn from the 1970 Census data. Appendix II describes the data source and basic definitions employed in this analysis.

It must be emphasized first that, under the basic lifeline concept, and specifically under the proposed provisions of H. R. 12461, lifeline rates benefit only consumers who are classified as residential customers; rates applicable to commercial and industrial customers would increase or, at best, remain unchanged. But according to 1970 Census data, for the nation as a whole, 12.5 percent of those with annual incomes under \$4,000 do not pay directly for their own electricity use. To be more specific, in 13 states, including the three largest states in the country, this is true for over 15 percent of such low-income consumers. Moreover, in 14 additional states, at least 10 percent of the poor do not pay their own electricity bills. These states are listed in Table VIII.

In these cases, electricity costs are included in rent payments and, in turn, the landlord may well be billed on a commercial rate schedule for the combined electricity use of the renting households. For this reason alone, then,

one out of every eight poor families in the United States actually may face increased electric costs as reflected in higher rents resulting from the institution of lifeline rates. If the lifeline revenue loss is recovered from commercial and industrial customers, not only will this segment of the poor face higher rents as a direct result of such rate changes, but also the prices they pay for all commercial services and manufactured goods will be higher.

The Census data for 1970 also provide information regarding the prevalence of electric space heating among low-income households. As previously discussed and shown in Table II, if all nonlifeline rates are increased by a uniform amount in order to offset the lifeline revenue loss, typically, residential customers whose use is in the 1,300 to 2,000 kilowatt-hour per month range will enjoy no lifeline benefit and may face increased total electricity bills. Such levels of use frequently are reached by consumers utilizing electric space heating. The FPC's publication All Electric Homes (1974) states that, for the country as a whole, electricity consumption in electrically heated dwelling units averaged 21,000 kilowatt-hours annually in 1973. Thus, absent an explicit exemption, the typical electric space heating customer would be unlikely to save money as a result of the institution of H. R. 12461's lifeline provision and, in fact, might pay more. The Census data for 1970 indicate that, in five states, over 20 percent of those with incomes

under \$4,000 a year live in electrically heated dwelling units (see Table VIII). In Washington, Oregon and Tennessee, which are included among these states, low-cost electricity from federally subsidized power projects has been largely responsible for such widespread use of electric space heating.

It should be emphasized that Census data vastly underestimate the current magnitude of the electric space heating problem. Data collected by the Electric Energy Association show that between 1970 and 1974, the proportion of all dwelling units which were heated with electricity increased by 60 percent (from 7.7 to 12.5 percent of the total housing units). Stated differently, during the last several years, nearly one-half of all newly constructed dwelling units have contained electric space heating. This growth has resulted in large measure from the unavailability of additional natural gas supplies. Where a moratorium on attaching new gas customers prevails, regardless of income, anyone occupying a new dwelling unit must use fuel oil or electricity for space and water heating and electricity for cooking. Under a lifeline rate plan, then, such customers could be doubly discriminated against--in addition to having no access to existing relatively low-cost natural gas supplies, they are unlikely to have access to any significant lifeline rate savings.

As previously pointed out, another group of residential customers that tend to use very large amounts of

electricity are farmers. Quantifying accurately the amount of electricity used by farmers is difficult. However, in 1960 --the last year for which the FPC kept data on rural customers separate from other residential customer data--the average annual kilowatt-hour consumption of rural customers was twice that of other residential customers. More recent information specific to California and Connecticut indicate that this relationship still holds. Census data reveal that, in 1970, in three states over 10 percent of those with incomes below \$4,000 annually were farmers, while in an additional eight states, between 5 and 10 percent of the poor were farmers. (See Table VIII.) A significant portion of this group may fail to benefit from the institution of lifeline rates.

The largest single group of residential customers that might derive minimal benefits from a lifeline rate plan are those with electric water heaters. An electric water heater alone will consume roughly 300 kilowatt-hours per month. Thus, an electric water heating customer whose other uses of electricity are relatively limited nevertheless can be expected to consume around 600 kilowatt-hours per month. Moreover, the vast majority of customers with electric water heaters also use electricity for cooking purposes. This adds roughly another 100 kilowatt-hours a month to the essential needs of these families. Census data for 1970 show that, in 10 states, over 50 percent of the poor had electric water heaters; in an additional 13 states, over 25 percent of the

low-income households had electric water heaters. (See Table VIII.) Moreover, as is the case with electric space heating, in recent years the proportion of dwelling units employing electric water heaters has risen significantly. Given this, Census data understate the proportion of residential customers whose electricity consumption will be relatively high as a result of the use of electric water heating. Under a lifeline plan with revenue recovery from the residential class, no low-income consumer utilizing electric water heating can be expected to benefit; some will face increased bills. Even if the revenue recovery is drawn from all customer classes, an extrapolation of the rate data shown on Table II indicates that a consumer of 700 kilowatt-hours a month typically would receive only 60 percent of the available lifeline benefit.

In sum, if the net effect of H. R. 12461's lifeline provision is to restrict significant benefits to those consuming, say, less than 700 kilowatt-hours per month, among the bypassed groups of low-income consumers will be those who do not pay their own electricity costs, those who pay their own bills and have electric water heaters and/or electric space heating, and those who are farmers. The Census data show that, in 14 states, these groups together account for over one-half of the poor. In an additional 25 states, over one-fourth of the poor fall into these categories. These states are shown in Table VIII.

On the other side of the coin, our studies, as well as those conducted by others, show that, in addition to income,

family size and type of dwelling unit are extremely important determinants of electricity use by residential customers. Thus, affluent families living in apartments may consume less electricity than larger and poorer families living in single family housing units. Table IX presents data we have developed in individual cases. Although the numbers vary widely, generally speaking about one-fourth of all affluent families will consist of only one or two persons and one-third of such high-income families will possess neither electric space heating, water heating or cooking. The proportion of affluent families living in apartment units varies from a low of 5 percent to over 60 percent in New York City. A considerable number of these high-income consumers may derive substantial benefits from a lifeline rate plan focused on low-use residential customers.

This is not to say that our studies or those of others show that there is no relationship between income and electricity use. On the contrary, on average, the poor clearly consume less electricity than more affluent customers. Despite this, it is equally clear that the poor cannot be identified accurately by the amount of electricity they consume. Consumption will vary for other reasons.

The final group of customers that will be bypassed by the lifeline provision of H. R. 12461 includes those served by electric utilities that have total annual sales (excluding sales for resale) of 200 million kilowatt-hours or less.

This includes 834 of the 929 electric distribution cooperatives listed in the Rural Electrification Administration's Rural Electric Borrowers Annual Statistical Report for 1973, 385 of the 529 municipally owned utilities listed in the FPC's Statistics of Publicly Owned Electric Utilities in the United States, and 12 of the 217 investor-owned utilities covered in the FPC's Statistics of Privately Owned Electric Utilities in the United States. Moreover, there exist a number of additional municipal utilities and investor-owned utilities which presumably are too small to meet the reporting requirements of the FPC and thus would not be covered by the lifeline provision of H. R. 12461. In total, we estimate that 12.6 percent of the residential customers in the United States are served by electric utilities too small to be affected by H. R. 12461's lifeline provision.

VI. CONCLUDING COMMENTS

The difficulty the poor have in coping with rising electricity costs is just one manifestation of a broader income distribution problem. Low-income consumers no doubt have had difficulty in dealing with their rising electricity bills, but they also have had difficulty in dealing with rising fuel oil, food, shelter, transportation and clothing costs. There is a strong tendency to attack this problem on a piecemeal basis, for example, by subsidizing housing and transportation, providing food stamps and manipulating utility rates. The result tends to be a series of half-workable solutions. At best, lifeline would continue this trend, helping perhaps a large number of low-income consumers but bypassing others, and unnecessarily diffusing benefits to consumers at all income levels. Instead, what is needed is a comprehensive attack on the income distribution problem--one which would be financed by a broad-based income tax and which would assure all groups in our society a minimal income. The poor then could decide for themselves whether they would spend that income on an additional gallon of fuel oil, a new sweater or a hot meal.

STATEMENT OF QUALIFICATIONS OF
JOE D. PACE

I received my bachelor's degree from the College of William and Mary in 1966 and my master's and doctoral degrees from the University of Michigan in 1967 and 1970, respectively. I specialized in the areas of industrial organization and public utility economics. Prior to joining NERA and while completing the requirements for my doctorate, I taught at the University of Michigan and served as an assistant planner with the Washtenaw County Planning Commission in Ann Arbor, Michigan.

I joined NERA in February of 1970. Since that time I have directed or participated in many projects dealing with a broad range of problems in the electric utility industry. Recently, on behalf of a number of clients, I have analyzed various proposals for relieving the energy cost burdens borne by the poor and the elderly.

I am the author of the unpublished doctoral dissertation Relative Efficiency in the Electric Utility Industry and the following publications or speeches: "Rate Structures and Changing Costs," a speech reprinted in the Summer 1973 edition of Management Quarterly, a publication of the National Rural Electric Cooperative Association; "The Subsidy Received by Publicly Owned Electric Utilities," which appeared in the April 29, 1971 edition of Public Utilities Fortnightly;

"Relevant Markets and the Nature of Competition in the Electric Utility Industry," which appeared in the Winter 1971 special regulatory issue of The Antitrust Bulletin; "The Relative Performance of Combination Gas-Electric Utilities," which appeared in the Summer 1972 edition of that same publication; "Problems in the Measurement and Application of Demand Elasticity to the Electric Utility Industry," a speech presented before the Executive Enterprises, Inc. Seminar on Current Trends in Public Utility Ratemaking in New York City on June 18, 1974; "The Poor, the Elderly and the Rising Cost of Energy," presented to the Pennsylvania Power Conference on April 23, 1975 and published somewhat modified in the June 5, 1975 edition of Public Utilities Fortnightly; "The Costs of Reducing SO₂ Emissions from Electric Generating Plants" (co-authored with Dr. Lewis Perl), a report submitted to the U.S. Senate Subcommittee on Environmental Pollution on April 29, 1975; "Lifeline Rates and Energy Stamps," a speech presented to the NERA Seminar on Peak-Load Pricing and Lifeline Rates on June 17, 1975; and, finally, "Lifeline Rates: Will They Do The Job?", a speech presented to the American Public Power Association Services and Communications Workshop on September 19, 1975 and published in the November-December 1975 edition of Public Power.

I have presented expert testimony before the Senate Subcommittee on Antitrust and Monopoly; the Federal Power Commission; the Atomic Safety and Licensing Boards in the

Consumers Power, Alabama Power and CAPCO antitrust proceedings; the New York State Assembly Committee on Corporations, Authorities and Commissions; and before the public utility commissions of Arizona, Connecticut, Massachusetts, New Jersey, New York, Oregon and Wisconsin.

ANALYSIS OF CENSUS DATA SOURCES AND DEFINITIONS

The analysis is based on the Bureau of the Census computer tapes, Public Use Samples of Basic Records from the 1970 Census, 1:1000, 5 percent sample, state file for the United States. This tape reports data for a sample of 1 out of every 1,000 households in the United States.

The total number of occupied households included in the sample is 63,493; 15,063 report annual incomes under \$4,000. The basic unit for these samples is the housing unit, defined as:

...houses, apartments, groups of rooms or single rooms, which are occupied, or vacant but intended for occupancy, as separate living quarters....[T]here is a housing unit when the occupants live and eat separately from any other persons in the structure and there is either (1) direct access to the unit from the outside or through a common hall, or (2) ...complete kitchen facilities for the occupants' exclusive use.¹

Group quarters are not included in the housing inventory.

The samples were selected from occupied housing units on the basis of total household income. Income is defined as the sum of the dollar amounts of money respondents reported receiving from all sources, including earnings,

¹ U.S. Department of Commerce, Bureau of the Census, Public Use Samples of Basic Records from the 1970 Census: Description and Technical Documentation, page 161.

social security, retirement pensions, disability payments, public assistance or welfare, charitable contributions and the like. In short, income includes all money receipts except those from sales of personal property, capital gains, lump sum insurance or inheritance payments or payments "in kind." Household income is the sum of the incomes of all household members, treated as a single amount.² For the purpose of this analysis, households with an annual income under \$4,000 were labeled poor. This compares with the Census Bureau's poverty threshold for a nonfarm family of four in 1970 of \$3,968.³

² Ibid., pages 155-156.

³ U.S. Department of Commerce, Bureau of the Census, Current Population Reports: Consumer Income, Series P-60, No. 9, December 1973, page 141.

TABLE I

LEGISLATIVE PROPOSALS FOR BASIC LIFELINE PLANS

Bill Number	State	Utility Service Covered	Lifeline Level	Rate	Applicability	Method of Revenue Recovery
		(1)	(2)	(3)	(4)	(5)
AB2105	New Jersey	Electricity	300 Kwh	3¢	Residential	Allocated Among Other Classes
H5958	Massachusetts (Superceded)	Electricity	300 Kwh	2.7¢ plus Fuel Adjustment	Residential	"Equitably from All Classes"
S356	Massachusetts	Electricity	300 Kwh	3¢	Residential	Not Stated
S406	Massachusetts	Electricity Gas	PUC to Determine	Not Subject to Increase or Change	Residential	Not Stated
H4201	Massachusetts	Electricity	300 Kwh and Space-Heating Customers	≤Succeeding Blocks	Residential	Uniform Kwh Charge to All Classes
H440	Vermont (Superceded)	Electricity	300 Kwh	3¢	Residential	"Equitably from All Classes"
AB314	Vermont	Electricity	PUC to Determine	≤Succeeding Blocks	Residential	"Equitably from All Classes"
HB2893	Illinois	Electricity Gas	500 Kwh 300 Therms	3¢ 7.4¢	Residential	Uniform Kwh Charge to All but Low-Use; Flat Customer Charge for All
AB287	Wisconsin	Electricity	500 Kwh	Free	Private Homes and Apartment Buildings	Not Stated
HB760	New Hampshire	Electricity	350 Kwh	3¢	Residential	"Equitably from All Classes"
HB583	Ohio	Electricity Gas	400 Kwh First Block	≤Succeeding Blocks ≤Succeeding Blocks	Nontotal-Electric Residential	Not Stated Not Stated
	Florida	Electricity	700 Kwh	≤Average Cost of Service to Meter	Residential	Utility Still to Earn Rate of Return
HD1489	Louisiana	Electricity	700 Kwh	≤Average Cost of Service to Meter	Residential	Utility Still to Earn Rate of Return
AB167	California	Electricity Gas	PUC to Determine	Frozen as of January 1, 1976	Residential	Not Stated
AB8757	New York (Superceded)	Electricity Gas	PUC and Company to Determine	≤\$30/Year	Residential	10% Increase to Other Residential, Rest from Commercial
AB8757-A	New York	Electricity	PUC to Determine	3¢	Residential (except Electric Space-Heating Customers)	Nonlifeline rates based on LRIC, excluding residential space heating, street lighting, public authorities, nonprofit institutions and commercial apartment houses
HD1372 SB1550	Tennessee	Electricity Gas	PUC to Determine	Frozen as of January 1, 1976	Residential	Not Stated
I-173	District of Columbia	Electricity Gas	PUC to Determine	75% of Cost of Supplying Utility	Residential and Apartments	Not Stated

Source: Information collected by NERA.

TABLE II
Page 1 of 2EFFECTS OF LIFELINE RATE RESTRUCTURING
REVENUE RECOVERY FROM ALL NONLIFELINE RETAIL SALES

	General Public Utilities Co.				NEES		Northeast Utilities Co.	
	Long Island Lighting Company (1)	Metropolitan Edison Company (2)	Pennsylvania Electric Company (3)	Jersey Central Power & Light Company (4)	Massachusetts Electric Company (5)		Connecticut Light & Power Company (6)	Hartford Electric Light Company (7)
I. Rate Impact per 1¢ Lifeline Rate Reduction								
Sales Below 100 Kwh Level	17.1	15.1	16.6	14.1	19.8		14.6	17.4
Percent Total Residential	7.8	5.2	5.1	6.0	7.5		6.1	5.7
Percent Total Retail								
Lifeline Revenue Loss per 1¢/Kwh Reduction (\$ Millions)	9.1	3.2	4.6	6.3	7.3		5.0	2.8
Required Increase per Kwh on Nonlifeline Sales (Mills)	0.84	0.55	0.54	0.84	0.81		0.65	0.60
Net Impact on Residential Bills								
100 Kwh	\$(1.00)	\$(1.00)	\$(1.00)	\$(1.00)	\$(1.00)		\$(1.00)	\$(1.00)
500 Kwh	(0.66)	(0.78)	(0.78)	(0.74)	(0.68)		(0.74)	(0.76)
1,000 Kwh	(0.24)	(0.50)	(0.51)	(0.42)	(0.27)		(0.41)	(0.46)
1,500 Kwh	0.18	(0.23)	(0.24)	(0.10)	0.13		(0.09)	(0.16)
Breakeven Point (Kwh)	1,290	1,918	1,951	1,662	1,335		1,638	1,767
II. Rate Impact Based on Present Rates								
Lifeline Rate (¢/Kwh)	2.40	1.32	1.22	1.93	2.41		1.95	2.11
Required Increase per Kwh on Nonlifeline Sales (Mills)	3.90	3.20	2.80	3.30	3.40		3.80	3.40
Net Impact on Residential Bills								
100 Kwh	\$(4.57)	\$(6.37)	\$(6.16)	\$(6.75)	\$(4.17)		\$(5.78)	\$(5.70)
500 Kwh	(3.01)	(5.09)	(5.04)	(5.43)	(2.81)		(4.26)	(4.34)
1,000 Kwh	(1.06)	(3.49)	(3.64)	(3.78)	(1.11)		(2.36)	(2.64)
1,500 Kwh	0.89	(1.89)	(2.24)	(2.13)	0.59		(0.46)	(0.94)
Breakeven Point (Kwh)	1,271	2,091	2,300	2,145	1,326		1,621	1,776
Percent Change in Non- residential Rates	4.6	9.6	10.1	9.9	8.0		11.1	10.3

EFFECTS OF LIFELINE RATE RESTRUCTURING
REVENUE RECOVERY FROM ALL NONLIFELINE RETAIL SALES

TABLE II
Page 2 of 2

	(1) Pacific Gas & Electric Company	(2) Pacific Power & Light Company	(3) Pennsylvania Power & Light Company	(4) Public Service Company of Colorado	(5) Public Service Company of New Mexico	(6) San Diego Gas & Electric Company	(7) Tampa Electric Company	(8) Virginia Electric and Power Company	(9) Wisconsin Electric Power Company
I. Rate Impact per 1¢ Lifeline Rate Reduction									
Sales Below 100 Kwh Level	18.0	8.8	13.5	21.4	19.5	20.4	9.5	12.1	15.2
Percent Total Residential	5.9	3.7	4.8	6.3	6.3	7.8	3.3	5.3	5.0
Percent Total Retail									
Lifeline Revenue Loss per 1¢/kwh Reduction (\$ Millions)	29.8	3.3	8.9	6.1	1.7	6.3	2.8	11.8	6.1
Required Increase per Kwh on Nonlifeline Sales (Mills)	0.63	0.38	0.50	0.68	0.67	0.84	0.34	0.56	0.53
Net Impact on Residential Bills									
300 Kwh	\$(1.00)	\$(1.00)	\$(1.00)	\$(1.00)	\$(1.00)	\$(1.00)	\$(1.00)	\$(1.00)	\$(1.00)
500 Kwh	(0.75)	(0.65)	(0.80)	(0.73)	(0.73)	(0.66)	(0.66)	(0.78)	(0.78)
1,000 Kwh	(0.43)	(0.66)	(0.53)	(0.38)	(0.46)	(0.44)	(0.53)	(0.56)	(0.53)
1,500 Kwh	(0.12)	(0.47)	(0.30)	(0.05)	(0.06)	0.18	(0.32)	(0.22)	(0.26)
Break-even Point (Kwh)	1,687	2,732	2,100	1,570	1,592	1,290	3,041	1,886	1,987
II. Rate Impact Based on Present Rates									
Lifeline Rate (¢/Kwh)	1.36	0.81	1.20	1.18	1.18	2.67	2.24	1.42	1.52
Required Increase per Kwh on Nonlifeline Sales (Mills)	1.90	1.60	2.80	2.20	2.60	2.60	1.80	3.50	2.20
Net Impact on Residential Bills									
100 Kwh	\$(3.04)	\$(4.22)	\$(5.66)	\$(3.28)	\$(3.75)	\$(3.12)	\$(5.34)	\$(6.23)	\$(4.23)
500 Kwh	(2.28)	(3.58)	(4.54)	(2.40)	(2.71)	(2.08)	(4.62)	(4.83)	(3.35)
1,000 Kwh	(1.33)	(2.78)	(3.14)	(1.30)	(1.41)	(0.78)	(3.72)	(3.08)	(2.25)
1,500 Kwh	(0.38)	(1.98)	(1.74)	(0.20)	(0.11)	0.52	(2.82)	(1.33)	(1.15)
Break-even Point (Kwh)	1,700	2,738	2,121	1,591	1,542	1,300	3,067	1,880	2,023
Percent Change in Non- residential Rates	8.5	9.8	11.1	10.2	9.4	7.9	6.7	10.9	8.7

Source: Data supplied by companies.

EFFECTS OF LIFELINE RATE RESTRUCTURING
REVENUE RECOVERY FROM NONRESIDENTIAL RETAIL SALES

TABLE III
Page 1 of 2

	General Public Utilities Co.				NEES		Northeast Utilities Co.	
	Long Island Lighting Company	Metropolitan Edison Company	Pennsylvania Electric Company	Jersey Central Power & Light Company	Massachusetts Electric Company		Connecticut Light & Power Company	Hartford Electric Light Company
	(1)	(2)	(3)	(4)	(5)		(6)	(7)
I. Rate Impact per 1¢ Lifeline Rate Reduction								
Sales Below 100 Kwh Level	17.1	15.1	16.6	14.1	19.8		14.6	17.4
Percent Total Residential	7.8	5.2	5.1	6.0	7.5		6.1	5.7
Percent Total Retail								
Lifeline Revenue Loss per 1¢/Kwh Reduction (\$ Millions)	9.1	3.2	4.6	6.3	7.3		5.0	2.8
Required Increase per Kwh on Nonresidential Sales (Mills)	1.43	0.80	0.74	1.06	1.20		1.08	0.85
II. Rate Impact Based on Present Rates								
Required Increase per Kwh on Nonresidential Sales (Mills)	6.50	4.60	3.80	5.40	5.10		6.30	4.80
Percent Change in Non- residential Rates	7.8	13.8	13.6	16.1	11.9		18.3	14.6

EFFECTS OF LIFELINE RATE RESTRUCTURING
REVENUE RECOVERY FROM NONRESIDENTIAL RETAIL SALES

										TABLE III												
										Page 2	Of 2											
										San Diego Gas & Electric Company	Tampa Electric Company	Virginia Electric and Power Company	Wisconsin Electric Power Company									
										(6)	(7)	(8)	(9)									
										Public Service Company of New Mexico	Public Service Company of Colorado											
										(5)	(4)											
										Pennsylvania Power & Light Company	Pacific Power & Light Company											
										(3)	(2)											
										Pacific Gas & Electric Company												
										(1)												
I. Rate Impact per 1¢ Lifeline Rate Reduction																						
Sales Below 100 Kwh Level																						
Percent Total Residential														18.0	8.8	13.5	21.4	19.5	20.4	9.5	12.1	15.2
Percent Total Retail														5.9	3.7	4.8	6.3	6.3	7.8	3.3	5.3	5.0
Lifeline Revenue Loss per 1¢/kwh Reduction (\$ Millions)														29.8	3.3	8.9	6.1	1.7	6.3	2.8	11.8	6.1
Required Increase per Kwh on Nonresidential Sales (Mills)														0.89	0.63	0.74	0.90	0.90	1.25	0.50	0.96	0.76
II. Rate Impact Based on Present Rates																						
Required Increase per Kwh on Nonresidential Sales (Mills)														2.70	2.70	4.20	2.90	3.60	3.90	2.70	6.00	3.20
Percent Change in Non-residential Rates														12.1	16.3	16.5	13.7	12.8	11.9	10.0	18.6	12.6

Source: Data supplied by companies.

EFFECTS OF LIFELINE RATE RESTRUCTURING
REVENUE RECOVERY FROM NONLIFELINE RESIDENTIAL SALES

TABLE IV
Page 1 of 2

	General Public Utilities Co.				NEES	Northeast Utilities Co.	
	Long Island Lighting Company (1)	Metropolitan Edison Company (2)	Pennsylvania Electric Company (3)	Jersey Central Power & Light Company (4)	Massachusetts Electric Company (5)	Connecticut Light & Power Company (6)	Hartford Electric Company (7)
I. Rate Impact per 1¢ Lifeline Rate Reduction							
Sales Below 100 Kwh Level							
Percent Total Residential	17.1	15.1	16.6	14.1	19.8	14.6	17.4
Percent Total Retail	7.8	5.2	5.1	6.0	7.5	6.1	5.7
Lifeline Revenue Loss per 1¢/Kwh Reduction (\$ Millions)	9.1	3.2	4.6	6.3	7.3	5.0	2.8
Required Increase per Kwh on Nonlifeline Sales (Mills)	2.10	1.80	2.00	1.60	2.50	1.70	2.10
Net Impact on Residential Bills							
100 Kwh	\$ (1.00)	\$ (1.00)	\$ (1.00)	\$ (1.00)	\$ (1.00)	\$ (1.00)	\$ (1.00)
500 Kwh	(0.16)	(0.28)	(0.20)	(0.36)	0.00	(0.32)	(0.16)
1,000 Kwh	0.89	0.62	0.80	0.44	1.25	0.53	0.89
1,500 Kwh	1.94	1.52	1.80	1.24	2.50	1.38	1.94
Break-even Point (Kwh)	576	656	600	725	500	688	576
II. Rate Impact Based on Present Rates							
Lifeline Rate (¢/Kwh)	2.40	1.32	1.22	1.93	2.41	1.95	2.11
Required Increase per Kwh on Nonlifeline Sales (Mills)	9.40	10.30	10.20	8.40	10.40	9.90	12.00
Net Impact on Residential Bills							
100 Kwh	\$ (4.57)	\$ (6.37)	\$ (6.16)	\$ (6.75)	\$ (4.17)	\$ (5.78)	\$ (5.70)
500 Kwh	(0.81)	(2.25)	(2.08)	(3.39)	(0.01)	(1.82)	(0.90)
1,000 Kwh	3.89	2.90	3.02	0.81	5.19	3.13	5.10
1,500 Kwh	8.59	8.05	8.12	5.01	10.39	8.08	11.10
Break-even Point (Kwh)	586	718	704	904	501	684	575

EFFECTS OF LIFELINE RATE RESTRUCTURING
REVENUE RECOVERY FROM NONLIFELINE RESIDENTIAL SALES

	(1) Pacific Gas & Electric Company	(2) Pacific Power & Light Company	(3) Pennsylvania Power & Light Company	(4) Public Service Company of Colorado	(5) Public Service Company of New Mexico	(6) San Diego Gas & Electric Company	(7) Tampa Electric Company	(8) Virginia Electric and Power Company	(9) Wisconsin Electric Power Company
I. Rate Impact per 1¢ Lifeline Rate Reduction									
Sales Below 100 Kwh Level	18.0	8.8	13.5	21.4	19.5	20.4	9.5	12.1	15.2
Percent Total Residential	5.9	3.7	4.8	6.3	6.3	7.8	3.3	5.3	5.0
Percent Total Retail									
Lifeline Revenue Loss per 1¢/Kwh Reduction (\$ Millions)	29.8	3.3	8.9	6.1	1.7	6.3	2.8	11.8	6.1
Required Increase per Kwh on Nonlifeline Sales (Mills)	2.20	1.00	1.60	2.70	2.40	2.60	1.10	1.40	1.80
Net Impact on Residential Bills									
100 Kwh	\$(1.00)	\$(1.00)	\$(1.00)	\$(1.00)	\$(1.00)	\$(1.00)	\$(1.00)	\$(1.00)	\$(1.00)
500 Kwh	(0.12)	(0.60)	(0.36)	0.08	(0.04)	0.04	(0.56)	(0.44)	(0.28)
1,000 Kwh	0.98	(0.10)	0.44	1.43	1.16	1.34	(0.01)	0.26	0.62
1,500 Kwh	2.08	0.40	1.24	2.78	2.36	2.64	0.54	0.96	1.52
Breakeven Point (Kwh)	555	1,100	725	470	517	485	1,009	814	656
II. Rate Impact Based on Present Rates									
Lifeline Rate (¢/Kwh)	1.36	0.81	1.20	1.18	1.18	2.67	2.24	1.42	1.52
Required Increase per Kwh on Nonlifeline Sales (Mills)	6.70	4.00	8.80	9.00	9.60	8.00	5.60	8.60	7.60
Net Impact on Residential Bills									
100 Kwh	\$(3.04)	\$(4.22)	\$(5.66)	\$(3.28)	\$(3.75)	\$(3.12)	\$(5.34)	\$(6.23)	\$(4.23)
500 Kwh	(0.36)	(2.62)	(2.14)	0.32	0.09	0.08	(3.10)	(2.79)	(1.19)
1,000 Kwh	2.99	(0.62)	2.26	4.82	4.89	4.08	(0.30)	1.51	2.61
1,500 Kwh	6.34	1.38	6.66	9.32	9.69	8.08	2.50	5.81	6.41
Breakeven Point (Kwh)	554	1,155	743	464	491	490	1,054	824	657

TABLE IV
Page 2

Source: Data supplied by companies.

TABLE V

EFFECTS OF LIFELINE RATE RESTRUCTURING
REVENUE RECOVERY FROM ALL NONLIFELINE RETAIL SALES
(300 Kwh @ 1¢ Off)

	Northeast Utilities			
	Long Island Lighting Company	Connecticut Light & Power Company	Hartford Electric Light Company	Wisconsin Electric Power Company
	(1)	(2)	(3)	(4)
Sales Below 300 Kwh Level				
Percent of Residential	47.4	39.9	45.7	43.7
Percent of Retail	21.6	16.8	15.0	14.2
Lifeline Revenue Loss per 1¢/Kwh Reduction (\$ Millions)	24.6	13.6	7.3	18.5
Required Increase per Kwh on Nonlifeline Sales (Mills)	2.80	2.00	1.80	1.70
Net Impact on Residential Bills				
300 Kwh	\$(3.00)	\$(3.00)	\$(3.00)	\$(3.00)
500 Kwh	(2.44)	(2.60)	(2.64)	(2.66)
1,000 Kwh	(1.04)	(1.60)	(1.74)	(1.81)
1,500 Kwh	0.36	(0.60)	(0.84)	(0.96)
Break-even Point (Kwh)	1,371	1,800	1,967	2,065

Source: Sales data supplied by LILCO, Northeast Utilities Service Company, and WEPSCO.

TABLE VI

EFFECTS OF LIFELINE RATE RESTRUCTURING
REVENUE RECOVERY FROM NONRESIDENTIAL RETAIL SALES
(300 Kwh @ 1¢ Off)

	Northeast Utilities			
	Long Island Lighting Company	Connecticut Light & Power Company	Hartford Electric Light Company	Wisconsin Electric Power Company
	(1)	(2)	(3)	(4)
Sales Below 300 Kwh Level				
Percent of Residential	47.4	39.9	45.7	43.7
Percent of Retail	21.6	16.8	15.0	14.2
Lifeline Revenue Loss per 1¢/Kwh Reduction (\$ Millions)	24.6	13.6	7.3	18.5
Required Increase per Kwh on Nonresidential Sales (Mills)	4.00	2.90	2.20	2.10

Source: Sales data supplied by LILCO, Northeast Utilities Service Company, and WEPKO.

TABLE VII

EFFECTS OF LIFELINE RATE RESTRUCTURING
REVENUE RECOVERY FROM NONLIFELINE RESIDENTIAL SALES
(300 Kwh @ 1¢ Off)

	Northeast Utilities			
	Long Island Lighting Company	Connecticut Light & Power Company	Hartford Electric Light Company	Wisconsin Electric Power Company
	(1)	(2)	(3)	(4)
Sales Below 300 Kwh Level				
Percent of Residential	47.4	39.9	45.7	43.7
Percent of Retail	21.6	16.8	15.0	14.2
Lifeline Revenue Loss per 1¢/Kwh Reduction (\$ Millions)	24.6	13.6	7.3	18.5
Required Increase per Kwh on Nonlifeline Sales (Mills)	9.00	6.70	8.40	7.80
Net Impact on Residential Bills				
300 Kwh	\$(3.00)	\$(3.00)	\$(3.00)	\$(3.00)
500 Kwh	(1.20)	(1.66)	(1.32)	(1.44)
1,000 Kwh	3.30	1.69	2.88	2.46
1,500 Kwh	7.80	5.04	7.08	6.36
Breakeven Point (Kwh)	633	748	657	685

Source: Sales data supplied by LILCO, Northeast Utilities Service Company, and WEPCO.

STATE-BY-STATE INFORMATIONAL BREAKDOWN

1. Electricity Included in Rent

States in which the percentage of poor households with electricity costs included in rent is 10-15 percent:

Arizona	Missouri
Connecticut	Montana
Indiana	Ohio
Iowa	Texas
Kansas	Utah
Michigan	Wisconsin
Minnesota	Wyoming

States in which the percentage of poor households with electricity costs included in rent is greater than 15 percent:

California	Nevada
Colorado	New Jersey
Washington, D.C.	New York
Illinois	Pennsylvania
Maryland	Rhode Island
Massachusetts	Washington
Nebraska	

2. Electric Space Heating

States in which the percentage of poor households with electric space heating is greater than 20 percent:

Florida	Tennessee
Nevada	Washington
Oregon	

3. Farmers

States in which the percentage of poor households classified as farmers is 5-10 percent:

Idaho	Nebraska
Iowa	North Carolina
Kansas	Vermont
Minnesota	Wyoming

3. Continued

States in which the percentage of poor households classified as farmers is greater than 10 percent:

Montana
North Dakota

South Dakota

4. Electric Water Heating

States in which the percentage of poor households with electric water heaters is 25-50 percent:

Alabama
Georgia
Indiana
Iowa
Kentucky
Michigan
Minnesota

Montana
New Hampshire
South Dakota
Utah
Virginia
Wisconsin

States in which the percentage of poor households with electric water heaters is greater than 50 percent:

Florida
Idaho
Nevada
North Carolina
North Dakota

Oregon
South Carolina
Tennessee
Vermont
Washington

5. Combined Statistics

States in which the combined percentage of poor households with electricity costs included in rent, electric water heaters, electric space heating and that are classified as farmers is 25-50 percent:

Alabama
California
Colorado
Delaware
Georgia
Illinois
Indiana
Kentucky
Maine
Maryland
Massachusetts
Michigan
Missouri

Montana
Nebraska
New Hampshire
New Jersey
Ohio
Pennsylvania
Rhode Island
Utah
Virginia
West Virginia
Wisconsin
Wyoming

5. Continued

States in which the combined percentage of poor households with electricity costs included in rent, electric water heaters, electric space heating and that are classified as farmers is greater than 50 percent:

Washington, D.C.	North Dakota
Florida	Oregon
Idaho	South Carolina
Iowa	South Dakota
Minnesota	Tennessee
Nevada	Vermont
North Carolina	Washington

Note: A poor household is one whose annual total income does not exceed \$4,000.

Source: Data developed from the Bureau of the Census computer tape, Public Use Samples of Basic Records from the 1970 Census, 1:1000, 5 percent sample, state file for the United States.

DEMOGRAPHIC AND APPLIANCE SATURATION
DATA FOR AFFLUENT HOUSEHOLDS
SELECTED AREAS

1970

	Income (Greater than or Equal to)	Sample Size	Percent in Multi-Family Dwellings	Percent One- and Two-Person Households	Percent Having No Electric Cooking, Water or Space Heating
	(1)	(2)	(3)	(4)	(5)
New York (Total)	\$ 20,000	6,199	29.4	30.5	59.3
Long Island	\$ 20,000	1,360	4.9	20.4	44.6
New York City	\$ 20,000	2,561	60.9	39.5	81.1
Upstate	\$ 20,000	1,519	5.5	26.5	31.3
Jersey Central Area ¹	\$ 17,000	643	6.2	22.6	54.7
Massachusetts	\$ 20,000	1,566	11.0	24.1	33.9
Oregon	\$ 15,000	979	6.1	29.9	3.3
Milwaukee Area ²	\$ 17,000	762	7.9	24.4	34.0
Connecticut	\$ 17,000	1,815	9.3	25.2	22.9

¹ Monmouth, Morris, Ocean and Cape May Counties, New Jersey.
² Milwaukee, Washington, Waukesha, Kenosha, Racine and
 Ozaukee Counties, Wisconsin. (This corresponds roughly to
 the Wisconsin Electric Power Company Service Area.)

Source: U.S. Bureau of the Census, Public Use Samples of
 Basic Records from the 1970 Census, 1:100 sample
 (various county group and state computer tapes).

TABLE IX

TESTIMONY BY

JAY B. KENNEDY

Professor of Economics
UNIVERSITY OF SOUTH FLORIDA
St. Petersburg, Florida

BEFORE THE

HOUSE COMMERCE COMMITTEE

SUBCOMMITTEE ON ENERGY AND POWER

ON H.R. 12461,

ELECTRIC UTILITY RATE REFORM

April 1, 1976

My name is Jay B. Kennedy. Until March 18, 1976, I was Executive Director of the Florida Public Service Commission. Presently I am Associate Professor of Economics at the University of South Florida at St. Petersburg, Florida. My educational background includes a Doctorate in Economics from Indiana University. I have been employed by the Arabian American Oil Company (ARAMCO) as an economist working in the areas of financial analysis and international petroleum economics.

My remarks are in regard to Section 203(3)(A), (B), (C), (D), otherwise known as the lifeline aspect of H.R. 12461. I will divide my testimony into two categories:

1. General comments regarding the lifeline concept.
2. Specific comments as regards lifeline in the bill.

General Comments:

No statement as to the desirability of implementing a lifeline rate can be made until a statement is made as to the goal to be accomplished by such a rate design feature. Furthermore, once that goal is identified the question must be addressed as to whether lifeline is the best method of attaining that goal.

I assume that the goal of a lifeline rate is to produce relief to those in a state of poverty. Demographic profiles of the poor indicate that frequently those at a poverty level are elderly. Of course, not all poor are elderly nor are all elderly poor. I consider the question of age, fixed versus

variable income, level of consumption of electricity and other matters to be ancillary to the real purpose of lifeline - to offer lower rates for electricity to those who are poor. The purpose of a price reduction is clearly to raise the real income of such persons. Electric rate manipulation is a vehicle to augment real income; and the impetus for it comes, of course, from the recent and dramatic rise in the price of electric service.

The question of whether or not to supplement income seems to me a legitimate area for legislative decision. As an economist I do not possess any tools of analysis that allow one greater insight into the need for income supplements. However, I do think that the method for relieving poverty, or raising real income, should stand the economic test: whether it is the most efficient, least distortive method for accomplishing the stated goal.

On that basis I submit that lifeline fails. Certainly different poor persons will enjoy different benefits from reduced electric rates; the benefit is not evenly distributed and bears no relationship whatsoever to the degree of need. Lifeline simply presumes that all small users of electricity are poor and, worse yet, that all poor are small users of electricity. The data, meager though it is, do not support these two contentions. The best one can say, on the basis of data I have seen, is that the average non-poverty household consumes more electricity than the average poverty household.

Few would quarrel with this conclusion. It is not, however, a sufficient justification for offering discount electric rates to all small users and placing the revenue burden of such discounts on others whose consumption is greater.

The purpose of a device such as lifeline is to bring a measure of relief to specific customers who are poor. If lifeline benefits some poor and penalizes others, while penalizing some rich and benefiting others, it fails specifically even though on average there may be net benefits to the poor. In one sample community in Florida it was determined that if the lifeline cutoff were 250 kwh then 87% of the poor and 92% of the wealthy would have exceeded that consumption. In that same community if the cutoff level were 750 kwh then 32% of the poor and 67% of the wealthy exceeded that consumption. Conversely, 68% of the poor were below 750 kwh of consumption as were 32% of the wealthy.

Testimony in these hearings has emphasized the importance of rate structure design that offers appropriate price signals and, as such, tracks cost. Nowhere have I heard anyone contend that lifeline is a cost-related rate concept. The one exception is the aside by Commissioner Berlin of the New York Public Service Commission that rates based on LRIC and employing the inverse elasticity rule might result in something like a lifeline rate.

Perhaps most disturbing is the fact that no proponent of a lifeline rate, that I know of, has ever offered any data to support the proposal. Instead the data requirement has been imposed on those who would argue against such rates.

Some idea of the significance of the problem can be obtained when a particular Florida utility is considered. Florida Power and Light, with some 1,600,000 residential customers, indicates that 53% of these, or about 850,000, consume less than 750 kwh per month on the average. A subsistence level of consumption in Florida has been suggested as 750 kwh by lifeline proponents. The shift in revenue responsibility would have to be immense if a lifeline were imposed on this company at 750 kwh (see Attachment A).

Specific Comments:

Section 203 is inconsistent with the rest of the bill to the extent it purports to support cost based rates while at the same time providing for a lifeline rate.

The bill has a strong emphasis on conservation and both load management and lifeline are frequently cited as representing conservation related rate designs. In fact, there is no assurance that time-of-day rates will conserve electricity if that term simply means a reduction in the quantity consumed versus what would have been consumed otherwise. Similarly, lifeline rates have not been shown to result in any decrease in electricity

consumption and may very likely have just the opposite effect. The answer of course depends on the relative elasticity above and below the lifeline level.

The method for determining the lifeline rate uses as a benchmark the "lowest charge per kilowatt-hour at such time of use . . . to any other electric consumer. . . ." For many utility systems the lifeline rate would therefore be the same as the interruptible or curtailable rate offered to industrial customers willing to remove or reduce their demand on the system at peak. These rates typically approximate pure energy cost in recognition of the fact that such service, by definition, does not cause any pressure to increase capacity. Furthermore, the bill requires that the lifeline so determined may not have added to it any customer charges while the industrial rate used as a benchmark must exclude both demand and customer charges.

Perhaps the most significant aspect of the lifeline rate determination is the wording which refers to ". . . any time of use." Apparently, if time of day rates were in effect for large industrial users then the lifeline rate would depend on the time of day at which the lifeline consumer used the electricity. A number of commissions, including Florida, are contemplating the design of time of day rates for large industrial customers who are already demand metered. It would seem that in order to implement the lifeline rates that residential customers, perhaps all of them, would also have to be time of demand metered.

Unfortunately the consequence of these relationships may be that Commissions withdraw from any attempt to implement time of day rate for large customers since such a measure would also require vast outlays for residential metering. The dilemma is then that if this lifeline proposal succeeds then its implementation will require that all customers be fitted with some sort of time-of-day meter. At this time such a move would be premature. If Commissions feel that it is too early to meter all customers their only choice is to withdraw from any attempt to begin time-of-day pricing for large customers. This result is contrary to the intent of the bill which is to move toward rates based on peak responsibility.

The bill applies the lifeline rate only to the customers "principal place of residence" in any month. Whether the customer used the low consumption home as his principal place of residence or, indeed, if he even occupied the residence would be impossible to determine since the bill is rendered for a past months consumption.

Summary:

The question of whether those in poverty should be given some form of income supplement is not a problem that can be solved by economic reasoning. It is a normative determination

depending on a society's system of values and legislative predilection. However, once a determination is made to provide assistance to persons at the poverty level, the question becomes one of choosing the method most efficient and least distortive from an economic point of view. The level of electricity consumption appears to be a poor proxy for income or wealth estimates.

Lifeline would result in some poor people subsidizing some wealthy people and some wealthy subsidizing some poor. Direct monetary grants, based on established need, would be a far more precise tool to attain the ultimate goal.

ATTACHMENT A

PRELIMINARY REPORT OF
FLORIDA POWER & LIGHT COMPANY
ON LIFELINE RATES



INTER-OFFICE CORRESPONDENCE

MAR 29 1976

TO	See Below	LOCATION	General Office
		DATE	March 25, 1976
FROM	F. E. Autrey	COPIES TO	Messrs.
			W. J. Campbell
SUBJECT:	<u>Energy Welfare</u>		T. Chisholm
			R. L. Sirmons

Attached is the preliminary information provided the Growth and Energy Committee of the Florida Legislature and the Public Service Commission regarding the "lifeline" form of energy welfare.

FEA:WTM:vlr

TO: Messrs.	
E. A. Adomat	L. C. Hunter
E. L. Bivans	R. W. Jones
M. C. Cook	W. M. Klein
Tracy Danese	R. E. Lloyd
M. T. Fraga	Marshall McDonald
J. H. Francis	W. S. Moore
R. J. Gardner	W. T. Muir
J. L. Howard	J. R. Sewell
J. J. Hudiburg	L. L. Williams



COURTESY WINS FRIENDS. USE FLORIDA FOR YOUR COMPANY. FOR YOUR

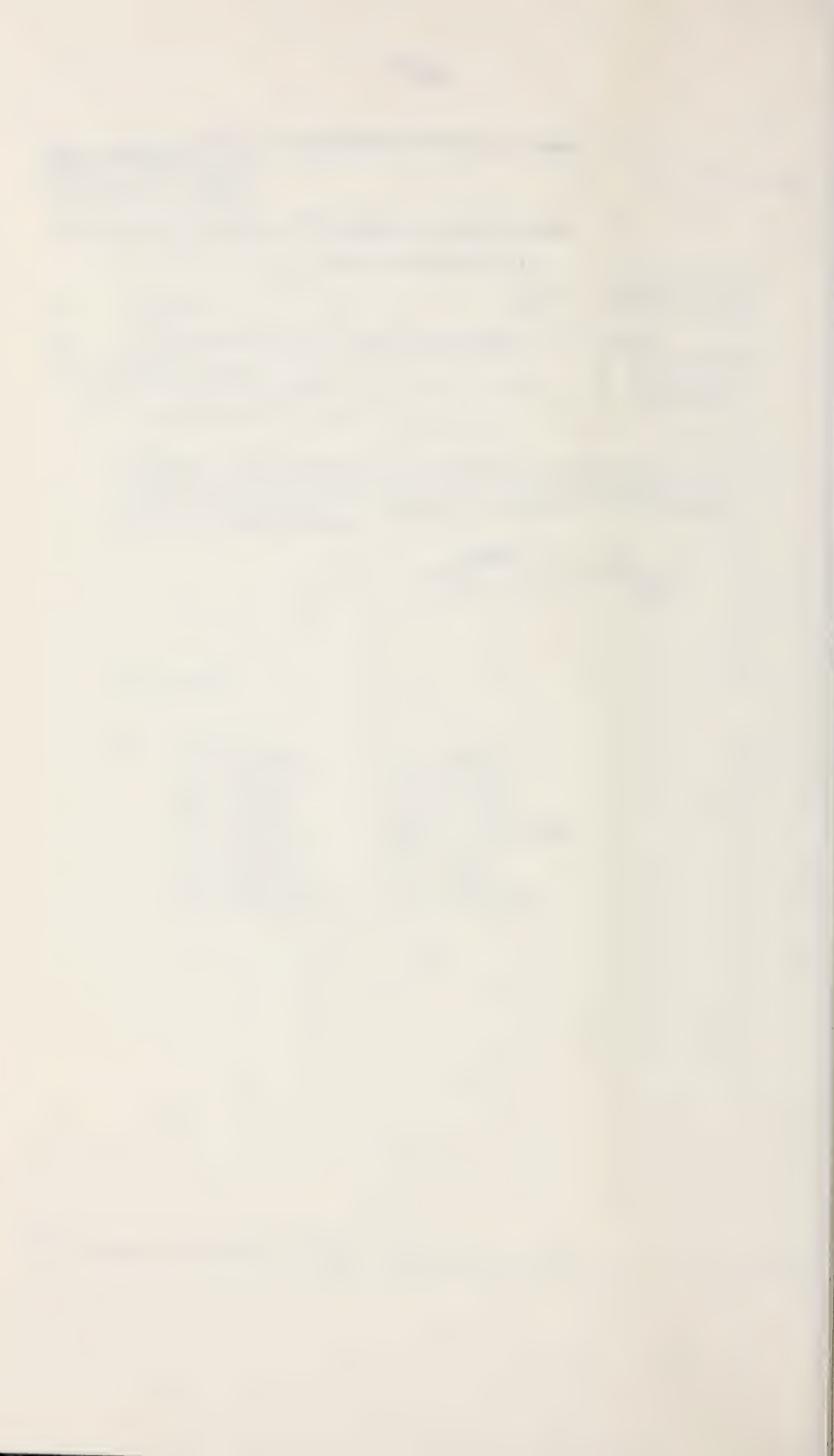
FORM 1003 REV

FLORIDA POWER AND LIGHT COMPANY

ENERGY WELFARE ALTERNATIVES

The "Lifeline" Rate

March 25, 1976



SUMMARY

As part of a general review of energy welfare alternatives, Florida Power & Light Company examined potential benefits of a price subsidy for low use utility customers to be included in the rate structure. Lost revenues including the costs above a fixed minimum charge to provide electric utility service would be recovered from high use customers instead of the actual consumer. Such a tariff structure would include a surcharge which would increase as electricity use increased.

The purpose of this rate structure would be to encourage a reduction in the use of electricity among high users by price discrimination which would theoretically bring elasticity mechanisms into play. Assuming that low users are disadvantaged and high users are high income people, it has also been theorized that the costs of providing service to disadvantaged low users would be borne by high income people. This form of subsidy has been popularly referred to as a "lifeline" rate.

The review concluded that many of the assumptions upon which this subsidy concept are based are probably not valid. Although low income people, on the average, use less electricity than high income people, many low income people use more electricity than many rich people.

This means that a surcharge designed to enhance the welfare of low income people at the expense of high income people might very well accomplish the opposite in frequent individual cases.

In addition, by addressing only one aspect of rising utility costs, namely electricity, without including the other essential services and utilities such as water and sewerage, gas, telephone, and transportation, a fragmented approach is taken to the problem of compensating underprivileged people in a time of rising costs. This piecemeal approach would not take into account inflationary pressures on all services.

Another factor to be considered is the departure from the principle of using cost of service to determine equitable rates. Although it may be in the best interests of society to subsidize services to those people who are unable to afford the price, manipulation of pricing may prove more complicated than providing a direct welfare benefit through a recognized agency. Charging a lower price for those who do not use the service as much as others, when use is only a marginal indication of ability to pay, is highly doubtful as a productive welfare technique.

For these reasons, the "lifeline" form of energy welfare appears to be more complex than a superficial view would indicate; and if implemented, it could create more problems than it would solve.

GENERAL

The prices of all goods and services are affected by increased energy costs. High energy costs mean more expensive fertilizer and foods, clothing, and shelter; in short, a higher cost of living.

Of special concern is the increased cost of the basic energy used by low income consumers for the essential services: electricity, gas, telephone, water and sewerage, and transportation. In periods of high inflation, poor people and elderly people on low and fixed incomes are especially concerned. Their income frequently does not keep pace with rising costs, and these essential services become harder to pay for.

1. The "Lifeline" Concept

One alternative frequently presented as a means society may employ to compensate the disadvantaged for specific hardships imposed by rising costs is a "lifeline" electricity rate. This concept has been proposed because its supporters believe a reduced price to low users of electricity will assist low income people. There are at least five assumptions inherent in such a proposal. They are:

1. Low users of electricity = disadvantaged.
2. High users of electricity = affluent.
3. People in need would be aided.
4. The affluent would pay.

- *5. Substantial energy savings would result.

Assumptions three and four are clearly based on assumptions one and two. A preliminary analysis would, therefore, depend on determining how closely use of electricity is linked to income.

2. Literature Search

A literature search revealed the most authoritative statement indicating a direct relationship between use and income is a Rand Corporation Report dated November, 1972 (R-1050-NSF/CSA). This study used Bureau of Labor Statistics data from 1960-61 estimating annual appliance purchase expenditures per household for various income groups. Use of electricity and other fuels was then extrapolated from this data. The indication was that income group and electricity use were apparently closely related in the Western United States.

3. Contradictory Florida Experience

Florida experience indicates that many changes have occurred in

- * This assumption regarding energy savings requires elasticity data which are not available although there is a weight of contradictory opinion regarding the impact of price increases on electricity use. Because our purpose is to discuss lifeline as a form of energy welfare and examine its suitability as an alternative for assisting low income people in defraying the expenses associated with rising energy costs, we will not discuss this assumption in this review.

use patterns since the Bureau of Labor Statistics data used in the Rand study were developed. Local conditions can have a significant effect on use and cause deviations from national patterns of consumption. Important exceptions can result. The most obvious deviation in Florida was the introduction of inexpensive air conditioning which occurred in the 1960's reaching saturation by 1970.

Inexpensive, relatively inefficient window units available to nearly any income level through easy credit and low monthly payments significantly altered traditional use patterns. Secondhand appliances also became available in great quantity reducing the validity of use estimates based on annual expenditures for appliances. In addition, experience in HUD housing where damage to refrigerators caused by consumers who lacked knowledge of correct defrosting procedures encouraged a recent transfer to frost-free refrigerators. These appliances promise lower maintenance but have somewhat higher operating costs. This evidence tends to support the contradictory conviction that some low income people in Florida may be high users of electricity.

4. Some Disadvantaged May be High Users

This point of view reasons that many disadvantaged people have large families and live in poorly insulated houses or apartments of inferior construction. Their appliances tend to be older and

less efficient. They also tend to lead more home-centered lives because they frequently can not afford to go beyond the home for entertainment and rely more heavily on television and home activities.

In addition, information provided by the Florida Department of Health and Rehabilitative Services regarding the amount permitted as a deduction when determining income eligibility for food stamps shows that many poor people, in fact many people actually receiving welfare benefits, are not low users of electricity.

5. Some Wealthy May be Low Users

On the other hand, preliminary information pointed clearly to the possibility that many affluent consumers in FPL's service territory are low users of electricity (Williams, 1973). Some of the explanations offered for this have been: frequent travel, ownership of second homes which are occupied only part of the year, favorable locations on the water or on golf courses where natural ventilation is desirable, and entertainment away from home. Consumers who use gas appliances also tend to be low users of electricity regardless of income group.

6. Need for Original Data

It was evident at this juncture that original data pertinent to Florida should be obtained in order to attempt to quantify the difference in use of affluent and underprivileged consumers.

7. Study Group Recommendation

The study group recommended a survey to contrast use characteristics of the two separate groups. Right to privacy prohibited direct inquiry into economic status. However, such information is indirectly available through observation of housing characteristics.

8. Housing Characteristics as Proxy for Income Data

High income people tend to live in large houses on spacious lots with multiple car garages and elaborate landscaping. The locations are on waterfront property or golf courses. Their condominiums and apartments are characterized by club houses, security guards, saunas, and a general high level of maintenance. The poor, on the other hand, tend to live in small frame houses on small lots. They have windows broken or missing and roofs in disrepair. They are characterized by a general lack of maintenance and poor construction. They usually reflect crowding; and the apartments are characterized by no landscaping, outside stairways, and on-street parking.

9. Sample Selection and Potential Bias

FPL identified meter routes which were uniformly high income or low income. The use of electricity for these two groups of customers for August, the highest use month in 1975, was then checked. It is recognized that the sample was biased. Wealthy people were contrasted with poor people, eliminating the entire middle income

category of users. This drawback notwithstanding, it was hypothesized that a comparison of extremes might demonstrate overlap in use characteristics of the two groups.

It was also recognized that some wealthy people live in modest homes. As a result, these customers will not appear in the results of the sampling because the sample tends to select the wealthy who live extravagantly. On the other hand, housing characteristics are probably a reliable indicator of economic status especially in the low income group because the upward mobile poor rarely remain in poverty housing once they have achieved a higher level of income.

Another potential bias was identified in climate variation. So partial meter routes in a single community with extreme differences in housing conditions within a small area were selected. In this way, it was reasonably certain that differences due to geography would not influence results.

The low income routes selected were in Daytona Beach, Sanford, Delray Beach, West Palm Beach, and Miami for a total of 1,307 low income customers. The high income routes were located in Daytona Beach, Cocoa Beach, Delray Beach, Naples, and Miami Beach for a total of 1,146 high income customers. The test community has 292 low income customers and 599 high income customers.

10. Statistical Results of Survey

The first sample showed that approximately 1% of low income customers and 2% of high income customers used no electricity. 16% of the low income customers used less than 250 kwh per month and 83% used more. Among the high income customers, 4% used less than 250 kwh per month and 94% used more. See attachment.

The difference between the numbers of high income and low income customers using less than 250 kwh in the month of August was only 11%. This means basically that 83% of the low income people would be subsidizing 16% of the poor at the 250 kwh subsidy level. The numbers of poor in the sample who would benefit are small. At the 750 kwh subsidy level, approximately 35% of low income people would be subsidizing approximately 18% of the high income residents, and 80% of the wealthy would be subsidizing 64% of the low income customers.

In the sample community, the results are only slightly different. At 250 kwh, 87% of the poor use above 250 kwh and 7% of the rich use below 250 kwh whereas 92% of the wealthy use above 250 kwh and 13% of the poor use less than 250 kwh. In this case, 87% of the poor people and 92% of the rich people use above 250 kwh. Using 750 kwh as the subsidy line, 67% of the rich in the sample used above 750 kwh and 68% of the poor used below 750 kwh. Interestingly enough, 32% of the low income use more while 32% of the rich use less.

11. Conclusion

The study demonstrated that, on the average, the low income customers sampled used less electricity than the high income customers sampled. However, although the disadvantaged group used less electricity on the average, the disadvantaged are not necessarily low users and low users are not necessarily disadvantaged.

The study also affirmed that high income people use more electricity on the average than low income people. However, all the affluent sampled were not high users and high users are not necessarily affluent.

12. Interpretation

It must be recognized that the samples compared extremes of wealth and poverty and did not give a continuous sample of all income levels. However, even contrasting extremes demonstrated the inequity of a subsidy system which determines benefits based on level of use rather than on financial need.

The problem presented by the overlap in use of the widely disparate groups sampled is that under existing "lifeline" proposals, poor people would subsidize the wealthy in frequent cases. Unless specific income criteria are used in determining eligibility for energy welfare benefits, it seems apparent that many people in need will receive no assistance and many who are not will be aided.

A successful program must identify the needy in order to avoid providing benefits to those who are not in need at the expense of people who are.

LOW INCOME ROUTES

<u>DISTRICT</u>	<u>ROUTE</u>	<u>NUMBER OF CUSTOMERS</u>
Daytona Beach	140	266
Sanford	47	441
Delray Beach	59	253
West Palm Beach	26	239
Miami	239	<u>108</u>
		1307

HIGH INCOME ROUTES

<u>DISTRICT</u>	<u>ROUTE</u>	<u>NUMBER OF CUSTOMERS</u>
Daytona Beach	125	266
Cocoa	22	238
Delray Beach	10	205
Naples	33	139
Miami Beach	31	<u>298</u>
		1146

AUGUST, 1975

<u>KWH</u>	<u>LOW INCOME</u>		<u>HIGH INCOME</u>	
0	11	1%	24	2%
1 - 250	216	16%	50	4%
Above 250	<u>1307</u>	83%	<u>1072</u>	94%
	1307		1146	

<u>KWH</u>	<u>LOW INCOME</u>		<u>HIGH INCOME</u>	
0	11	1%	24	2%
1 - 750	836	64%	209	18%
Above 750	<u>460</u>	35%	<u>913</u>	80%
	1307		1146	

AUGUST, 1975

SAMPLE COMMUNITY

		<u>Number of Customers</u>
LOW INCOME ROUTES:	30 (SEGMENTS)	81
	40 (SEGMENTS)	211
		<u>292</u>
HIGH INCOME ROUTES:	123 (SEGMENTS)	340
	222 (SEGMENTS)	259
		<u>599</u>

<u>KWH</u>	<u>LOW INCOME</u>		<u>HIGH INCOME</u>	
0	0	0	3	1%
1 - 250	39	13%	44	7%
Above 250	253	87%	552	92%
	<u>292</u>		<u>599</u>	

<u>KWH</u>	<u>LOW INCOME</u>		<u>HIGH INCOME</u>	
0	0	0	3	1%
1 - 750	200	68%	196	32%
Above 750	92	32%	400	67%
	<u>292</u>		<u>599</u>	

Name	Rank	Regiment
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

Name	Rank	Regiment
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

Name	Rank	Regiment
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

Name	Rank	Regiment
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

STATEMENT OF DENNIS W. BAKKE
DEPUTY ASSISTANT ADMINISTRATOR
ENERGY CONSERVATION AND ENVIRONMENT
FEDERAL ENERGY ADMINISTRATION

before the

Subcommittee on Energy and Power
Committee on Interstate and Foreign Commerce

on

Lifeline Electric Rates

H.R. 12461

April 1, 1976

Introduction

Mr. Chairman and distinguished Members of the Subcommittee, I welcome the opportunity to appear before you today on the subject of electric utility lifeline rates. Accompanying me today is Howard F. Perry, the Associate Assistant Administrator for Utilities Programs.

I am appearing before you today to present testimony on H.R. 12461, the Electric Utility Rate Reform and Regulatory Improvement Act. My testimony will address lifeline electric rates, as set forth in Section 203(a)(3) of this Act. At the conclusion of my remarks, I shall be happy to respond to any questions the Members wish to ask.

LIFELINE

I would now like to turn to a discussion of Lifeline electric rates. For the purposes of this discussion, I will define lifeline rates so as to be consistent with the provisions of Section 203(a)(3)(A). By this definition, a lifeline rate structure is one which prices the first several hundred kilowatt-hours consumed monthly by each residential customer at a rate no higher than the rate per kilowatt-hour (exclusive of demand and customer charges) charged any other customer in any other block of usage during the same time period. Although other lifeline concepts frequently attempt to target benefits specifically to elderly and/or low income users of electricity, rather than simply to low levels of electricity use, these forms of lifeline are inconsistent with that described in Section 203(a)(3)(A), and I will discuss only the form outlined in that Section.

Under this rate form, the first several hundred kilowatt-hours consumed monthly by residential customers would be provided at a low uniform charge per kilowatt-hour. This rate structure has received a good deal of attention in recent years, and legislation to implement such rate structures has been introduced in a number of States; in California, a form of lifeline has become law. The level of consumption applicable to lifeline rates varies from State to State in these proposals, from a maximum of approximately 300 kilowatt-hours per month to one of approximately 700 kilowatt-hours per month. The subsidization of low volume consumption would be hidden in the pricing structure by increasing the rates for consumption above the lifeline level, either within

the residential class or in other customer classes.

If utility revenues used to finance lifeline rates are recovered within the rest of the residential class, then residential kilowatt-hour charges above the lifeline level would rise substantially. If revenue recovery is to be assumed by commercial and industrial customers as well, then rates for those classes will also rise, though to a lesser extent.

Proponents of lifeline generally maintain that such a rate structure provides two major advantages over current rate structures. First, lifeline is claimed to alleviate the difficulties that all residential consumers, and in particular low-income consumers, face in affording the amount of energy required to support minimum living standards. Economists would view this as one form of attempting to redistribute real income to low-income persons. Second, some advocates of lifeline assert that it will promote national energy conservation goals by reducing the rates paid by small-use customers, and increasing the rates paid by those using larger amounts of electricity. Some economists have argued that under certain conditions it may be proper to reduce the rates paid by small users of electricity. Their argument asserts that if residential use of a minimum amount of electricity is price inelastic, then reducing these rates need not increase consumption or create efficiency losses.

In order to reach a policy decision on whether lifeline rates should be implemented, it is necessary to consider the effectiveness with which lifeline rates would achieve their two major stated goals, easing the burden of rising energy prices on the poor and encouraging energy conservation. This discussion will focus, first, on the available evidence

we know about the patterns of electricity use by low-income households. It will then turn to an examination of the effect lifeline rates would have on residential bills and how residential users would respond to such bills in altering their use of electricity.

We have examined several studies that have attempted to assess the level of electricity consumption of residential households as it relates to household income level. These studies give some indication--as yet inconclusive--of the correlation of electricity use and income level. For a lifeline rate to be an effective tool in achieving its first major goal--easing the burden of electricity costs for low-income users--it must at least be shown that low-income users do in fact use a level of electricity small enough to enable them to gain from such a rate. I will briefly summarize the findings of these analyses in the hope that the Subcommittee might find them useful in its consideration of the likely effectiveness of lifeline rates in alleviating the plight of low-income energy consumers.

First, a study completed in 1974 by a major California utility, using income and housing data gathered in the 1970 Census, examined the validity of the assertion that low-income households consume less electricity than higher-income households. The results of this study indicated that, for the service area of this company, the hypothesis that low income users, because of their low income, consume smaller amounts of electricity than higher income users, was statistically invalid. This

conclusion held whether the study examined average usage or a frequency distribution of usage, or attempted to correlate income and electricity usage through regression analysis. The study indicated, moreover, that usage correlated to a statistically significant degree with no quantifiable variable. Results of the analysis also showed that a substantial percentage of low income users consumed large amounts of electricity. Regression analysis of the Census and consumption data demonstrated statistically that income and usage were not significantly correlated.

A study completed in 1975 by a major Maryland utility was generally consistent with these findings. The study found that low-income users as a group consumed less electricity on average than high income customers. However, it also found that a substantial percentage of low-income customers used more electricity than the average high income user. Regression analysis, again based on Census and consumption data, indicated that income and usage were not significantly correlated. Low-income households cannot, according to this study and the California study, be accurately targeted by the amount of electricity they consume, since a large number of other variables affect usage as well.

A third recently-completed study examined 1970 Census data for New York State. This study took a slightly different tack than the two others. It showed, first, that a substantial percentage of low-income users in New York live in multi-unit

dwellings with commercial rather than residential electric service, with bills paid by the landlord and included in the monthly rent. These tenants would not gain from lifeline rates as currently conceived and, in fact could face higher rents if revenue recovery takes place in the non-residential classes. The study further showed that substantial portions of the poor are not low users of electricity at all. The analysis traced this to Census data indicating that many low-income households had electric water-heating, electric kitchens, or electric space heating, or some combination of these features, any of which would boost monthly consumption substantially. The New York study, then, tends to support the conclusions drawn by the earlier studies.

Turning to the question of the effectiveness with which lifeline rates can improve energy conservation, there is some evidence that this kind of rate structure may not reduce overall energy consumption to any substantial degree. First, let us examine the form of lifeline in which revenue recovery is drawn from all customer classes. The New York study assumes that a lifeline rate of three cents per kilowatt-hour is put into effect for New York's seven major electric utilities, with revenue recovery in all classes, including residential usage above 300 kilowatt-hour per month. New York's current rate per kilowatt-hour for usage of less than 300 kilowatt-hours per month ranges from 3.94 cents to 8.67 cents. Revenues lost would be recovered by increasing the price per

kilowatt-hour for commercial and industrial usage, and for residential usage above the lifeline level.

Since all residential users, of any level of consumption, would enjoy reduced prices for the first 300 kilowatt-hours of consumption monthly, and increased prices for kilowatt-hour in excess of 300, then there is a breakeven point where the higher charges paid for usage above the lifeline level would offset the lifeline reduction. For the seven New York utilities, the breakeven point with this kind of lifeline rate would range between 1346 and 1718 kilowatt-hours per month. That is, residential customers with monthly usage below this level would enjoy net reductions in their electric bills. More than ninety-five percent of New York's residential customers consume less than this amount per month. Because residential electricity usage, at all usage levels, has been shown to respond to price changes, the net effect of this reduction, other things being equal, would probably be to increase the consumption of more than 95 percent of the State's residential customers.

Larger users, including commercial and industrial customers, would face, of course, increased electricity prices, thus reducing their electricity consumption. Whether this reduction offsets the increased residential usage depends largely on the relative price elasticity of demand for these classes as against residential price elasticity, a relationship which we are currently studying. In any case, it is possible that if larger users are forced to reduce electricity consumption, they may

switch to less efficient--but with lifeline relatively cheaper-- alternative forms of energy. The net effect of this inefficient energy substitution may serve to increase the overall use of energy even by these customers, though electricity use may decline. In addition, since larger industrial customers tend to have a beneficial effect on utility load factors, to the extent these users switch to alternate fuels, utility load factors would decline. This would drive up a utility's costs, leading to increased rates for all remaining customers, including those who initially benefit from lifeline.

An examination of the second form of lifeline, in which revenue recovery is limited to the residential class, also shows uncertain conservation effects. Using the same example of New York utilities, and a three cents/300 kilowatt-hour lifeline plan, it is shown that the breakeven point would fall between 414 and 658 kilowatt-hour per month. That is, residential bills below or above the breakeven point would be reduced or raised respectively. Between 65 percent and 82 percent of residential customers of these utilities fall below the breakeven level, would consequently find their electric bills reduced under this form of lifeline, and likely would increase their electricity consumption. Customers above the breakeven level, including lower and middle income consumers with electric water and/or space heating, would find their bills increased. These consumers would have an incentive to reduce their electricity consumption--but not necessarily their total energy consumption, in view of the

substitution effect. Commercial and industrial consumption would not be directly affected.

The net effect of this second lifeline plan in reducing energy consumption, then, is uncertain. Apart from the substitution effect, it would largely depend, again, on the relative elasticities of small-user demand versus large-user demand. We know of no definitive evidence, however, indicating that the price elasticity of small users of electricity is less than that of larger users.

Section 203(a)(3) provides for a rate that would limit the maximum average per kilowatt-hour charge (with any customer charge folded in) for the first, say, 300 kilowatt-hours of monthly use to the lowest kilowatt-hour charge (excluding demand and customer charge) to any block of use of any other customer at the same time of use. Large industrial and commercial customers typically are under a three-part tariff for electric service: a customer charge, a demand (kilowatt) charge and an energy (or kilowatt-hour) charge. Since the energy (kilowatt-hour) component of large industrial tariffs is generally the smallest such charge--averaging about one cent nationally--this lifeline plan would set a lifeline rate of about one cent per kilowatt-hour, if industrial rates remain unchanged. Utilities, however, may likely perceive, under this plan, an incentive to raise the kilowatt-hour components of large industrial tariffs, by reducing the demand charges of these rates. Such an incentive would be perverse, however, in

its diminution of the price signals telling customers to limit their peak demand, an effect directly contrary to the principles of marginal cost and peakload pricing. There is a substantial possibility, then, that such a lifeline plan would depart from the marginal cost concept.

Let me sum up the weight of the available data that would bear upon the effectiveness with which lifeline rates would achieve their stated goals of aiding the poor and conserving energy. The available evidence indicates that the ability of lifeline rates to effectively achieve either of its goals is uncertain. In brief, the preliminary conclusions of FEA analyses of lifeline are as follows:

First, lifeline may decrease electricity consumption, but may increase the use of scarce fuels. Second, under a lifeline plan with revenue recovery drawn only from the residential class, there is a possibility that a large percentage of the poor and middle income consumers would be hurt, while many higher income users would be made appreciably better off. Third, if revenue recovery is drawn from all customer classes, then a very high percentage of all residential customers, wealthy and poor alike, would probably enjoy lower electricity bills. However, since industrial and commercial customers will be forced to pass on their higher electricity costs in the form of higher prices, there is a substantial possibility that the real income of residential households would remain the same or fall.

Too many questions about the actual effects of lifeline, however, remain to be answered. FEA is therefore continuing to analyze the economic and energy effects of lifeline. A critical element of this analysis will be a field test of lifeline rates as part of FEA's Electric Utility Demonstration projects. Several weeks ago we sent out to States a Request for Proposals for electric utility rate and load management demonstration projects. Among the proposals solicited were those for lifeline demonstration projects. We hope to use the results of these studies, along with our continuing analysis of lifeline, to better determine the likely effects of such a rate.

In light of the possibility that the provisions of Section 203(a)(3) would be inconsistent with marginal cost pricing, and absent persuasive evidence that the effect of this provision would achieve the objectives of aiding the poor and improving energy conservation, FEA advises against enactment of Section 203(a)(3).

APRIL 2, 1976

STATEMENTS OF: HON. EDWARD W. BROOKE, GEORGE SPIEGEL, DR.
LEE RICHARDSON, DR. ERNST R. HABICHT, JR., AND PANEL ON
FUEL ADJUSTMENT CLAUSES AND OTHER AUTOMATIC CLAUSES

THE HISTORY OF

THE HISTORY OF THE UNITED STATES OF AMERICA
FROM 1776 TO 1876
BY JAMES M. SMITH

TESTIMONY OF SENATOR EDWARD W. BROOKE BEFORE THE SUBCOMMITTEE
ON ENERGY AND POWER OF THE HOUSE INTERSTATE AND FOREIGN COM-
MERCE COMMITTEE ON H. R. 12461, THE ELECTRIC UTILITY RATE
REFORM AND REGULATORY IMPROVEMENT ACT - APRIL 2, 1976

Mr. Chairman, I am most grateful for the opportunity to speak on the important issue of utility rate reform. You and the members of your Subcommittee are performing an important service for the nation by opening the congressional debate on this matter of intense concern and interest to virtually every American. This series of hearings has collected an impressive gathering of witnesses representing the widest possible spectrum of views and expertise. I believe the record of testimony alone will soon become a textbook on utility rate reform and growth management on which many of us will rely for years to come.

For two years, I have personally been deeply concerned not only about the high costs of electricity to consumers, but also about the pattern of electric utility growth which seems to promise only continued waste of our nation's precious energy and capital resources. In the Northeast, of course, this subject has special urgency, for as you know, we pay the highest electric utility bills in the United States.

Massachusetts consumers pay the second highest electric bills in the entire nation. Even more disturbing is the fact that, while everyone in the United States is seeing an alarming rise in their electric utility costs, our rates in Massachusetts are increasing annually at twice the average national rate of change. Even in the face of the rate increases our residents have already been forced to pay, we have rate increase applications pending before the Massachusetts Department of Public Utilities totaling nearly 67 million dollars.

Therefore, nearly a year ago, I introduced the Electric Utilities Rate Reform Act of 1975 together with Senator Lowell Weicker of Connecticut and Senator Hugh Scott of Pennsylvania. In the intervening months, I understand the majority staffs of both the House and Senate Commerce Committees have been studying the problem and drafting the Committee bills, H. R. 12461 which we are considering today, and its Senate companion measure. When these proposals were recently introduced, I was delighted to find, as were Senator Weicker and Senator Scott, that the rate reform provisions of the Committee majority bill were in essence and, indeed, in many particulars, the same as our proposals of last year.

Both our bill, S. 1666, and H. R. 12461 mandate changes in the way electric utility rates are designed by most regulatory commissions. All of us recognize that rate designs have historically been promotional in nature, that is, established to encourage energy use rather than energy conservation. And all of us have sought in these bills to lower the costs of electric power in the long run by establishing standards such that household consumers will pay only for the true cost of the service they use and such that peak load use of generating facilities is reduced to keep down the expensive and wasteful construction of new generating capacity. Furthermore, we generally share the view that the matter of managing our energy resources wisely is of such profound national concern that there is clear justification for establishing national standards according to which the states and localities may exercise their regulatory powers. I realize there will be continuing controversy over this central issue of utility regulation.

I have been impressed, as I discussed my bill with my Senate colleagues during the past year, at the potential for bipartisan agreement over the need to establish national standards. Indeed, even the groups which have come before your Subcommittee in opposition this week are not unified. For example, the Commissioners of the Massachusetts Department of Public Utilities have encouraged me to develop the approach of S. 1666.

I am sure many members of both parties in both Houses of Congress will share my view that the federal role should be as limited as possible and that the federal standards must be both general and simple.^{and} I have no doubt we can reach agreement on most of the issues before your Subcommittee today.

Indeed, my purpose in coming before you this morning is to suggest the outlines of legislation which I and the cosponsors of this original legislation feel we can win support for among Senate Republicans and pass this session and which we feel deserves serious consideration by your Subcommittee as well.

Early next week, I will be filing a new bill as a substitute for my original proposal. It is being developed by taking the provisions Senators Weicker, Hugh Scott and I believed to be the strongest in both bills and thus arriving at a new measure, which I would like to summarize for you briefly and compare to the proposal currently before you.

First, I must say that it is my judgment that a comprehensive electric utility regulatory package like H. R. 12461 and S. 2502, while vitally needed, encompasses too many complex issues to be reported out of both the House and Senate Committees by May 15 and passed this session of Congress. On the other hand, I am convinced that a far

reaching rate reform measure has broad and solid support and could be passed soon. It is my judgment and that of my cosponsors that we can enact rate design standards without jeopardizing resolution of important questions like bulk power facility regulation and siting issues. Therefore, the compromise proposal I will be filing contains only measures relating to utility rate reform and Financial Assistance to State Regulatory Authorities, essentially those things covered by Titles II and IV of the bill before you. But we recognize that some supporters of provisions contained in the bulk power and siting titles of H. R. 12461 will not be mobilized for rate reform alone. Therefore, we will also be developing a compromise companion proposal related to these issues, so that the future of both the electric utility regulatory bills will be closely linked.

The substitute proposal, like our original proposal and the Committee bills, provides that the cost of service is the standard by which customers will be charged for using electricity. It adopts the excellent provisions for regular submission of clear and comprehensive financial data by the utilities for public scrutiny. It also adopts the provisions for grants to improve state regulatory authority staffing, and enforcement grants for rate structure innovation, grants for the federal office of Ratemaking Assistance, and, most important, grants for consumer representation. We feel that these will provide the essential tools which are: a reasonable standard that establishes fair pricing and conserves energy, disclosure by utilities of all data pertinent to their costs of service which will be on file and which will be summarized on consumer bills so that the household can see

what items his or her bill represents, and, finally, full access to the regulatory process and the records there by the public and the groups representing the public interest. I am certain this is an effective way to change the way we set utility rates, and I am equally sure the Congress will recognize how inherently fair the procedure is and pass on a similar measure.

In some instances, however, I believe the Committee bill provisions need modification. With your permission, I will submit for the hearings record next week a detailed analysis of changes and differences that appear in the new proposal that I will file in a few days. But I would like to summarize the significant substantive differences between the measure before you and the forthcoming proposal.

The new language first of all does not include the method the Committee adopted for dealing with fuel adjustment charges. Quite frankly, there is substantial disagreement among my colleagues in the Senate as to the need for the cash-flow flexibility the fuel adjustment charge provides. Indeed, my personal judgment is that the fuel charges could be abolished, now that fuel prices have been stabilized under the 1975 Energy Policy Act, without doing great harm at least to Massachusetts utilities. However, a number of Senators have particular energy problems in their states which they strongly feel call for continued use of some kind of pass through of fuel costs in between rate-making proceedings. We will file language designed to replace the complex computational system which appears in the Committee bill with provisions anyone can understand and designed to prevent fraud or error against consumers interests while still providing flexibility for utilities.

What is more, our proposal will actually help keep fuel prices down because it will mandate that fuels will be bought in a sealed bidding process. All records of the bidding and the sale will be filed by the utilities with the regulatory commission. These provisions are designed to get utilities fuels at the lowest possible cost. Then, the utilities may pass through increases according to the rules established by the Commission. However, a consumer who, upon inspection of the record, questions the charges being imposed may request and get a public hearing drawing on the consumer representation resources available for questioning all other regulatory decisions. In the event that the fuel charge is found to be not justifiable, it shall be fully refundable.

Another point of controversy is the language which establishes a so called lifeline rate. Many legitimate questions have been raised as to whether this idea would accomplish the purpose for which it is intended, alleviating the burden of high electric bills on low income households. I understand these issues were fully aired in your hearings yesterday.

For my own part, I favor subsidizing directly poor families, who pay proportionately more for energy than wealthier people and who have borne the economic brunt of our energy crisis. However, my efforts to start such programs through my work in the Senate Appropriations Committee have not had sufficient support, and I cannot offer a real income support program as an alternative. On the other hand, numerous states are developing programs to help the poor with utility bills.

The Committee draft recognizes this, as it exempts such states from the lifeline provision. I and my colleagues feel that it is clear that there are many alternatives and that it is not clear that lifeline is the best of them. It provides a little relief to a lot of people, some of whom just do not need it. In spite of the tremendous current popularity of the notion, I and my colleagues feel there is enough valid doubt about whether it can provide the promised benefits that we should not cast lifeline into federal law. To promote experimentation so that we may evaluate the economic impact of various ways to relieve energy bills for the poor, we feel we must adhere to our support of the provision we wrote into S. 1666. That language provides that states may go outside the bill's requirement for cost-of-service pricing to establish special rates designed to reduce the economic burden of high energy costs for low income persons. This does not interfere with the legitimate need for testing a variety of concepts and programs.

I think it is important to note that cost-of-service pricing in itself will provide some relief to the poorest users as soon as it becomes effective. These users are currently subsidizing classes of households using significant amounts of peak load power for energy-inefficient appliances because of the declining block rate structure. Mr. Chairman, this is already a good bill for low income consumers in both the long and short run. We feel strongly that we must not experiment with federal regulatory intervention in a matter in which the results are so uncertain.

These are the most important differences between our new proposal and the Committee bill. The other changes we feel are clarifying or technical in nature. I hope this gives your Subcommittee some indication that there is solid support for utility rate reform, and that many of us share a sense of urgency about passage of this important measure. Not only do we need it to set up a fair and open utility reform process, but more important, it is without question the single most comprehensive, long run energy conservation measure the Congress might enact this year. I pledge all my efforts to securing passage on the Senate side.

Thank you.

3/31/76

CONGRESS OF THE UNITED STATES
HOUSE OF REPRESENTATIVES

Committee on Interstate and Foreign Commerce
Subcommittee on Energy and Power

STATEMENT BY GEORGE SPIEGEL
CONCERNING PROPOSED AMENDMENTS
TO THE FEDERAL POWER ACT
(H.R. 2633, 12461, 12608)

My name is George Spiegel, and I am a partner in the law firm of Spiegel & McDiarmid, 2600 Virginia Avenue, N. W., Washington, D. C., 20037. I am here, by invitation of the Subcommittee Chairman, to present my views on proposals contained in the three bills covering a broad area of public utilities problem. I am primarily interested in Title III of H. R. 12461, ^{*}/ the Dingell bill, which would provide a strengthening and broadening of the authority of the Federal Power Commission to regulate whole-sale electric business under Parts II and III of the Federal ^{**}/ Power Act.

*/ To reform electric utility rate regulations, to strengthen state electric utility regulatory agencies, and for other purposes: March 11, 1976, Mr. Dingell (Mr. McDonald of Massachusetts, Mr. Moss, Mr. Moffett, Mr. Ottinger, Mr. Broadhead and Mr. Maguire).

**/ 16 U.S.C. 824(a)-825r.

In the event comprehensive legislation cannot be passed in this session, I recommend that Title III of the Dingell bill be enacted separately because the matter is urgent. Thus, I also state my support of H.R. 12608, the McFall bill, ^{*}/ which covers much of the same ground.

In a nutshell, the smaller electric utilities (some 3,174 municipally and cooperatively-owned utilities, with some 18% of the retail market) require expanded protection by the FPC if they are not to be put out of business by the current upsurge in fuel costs in combination with the anti-competitive activities by many of the major electric power companies. These consumer-owned utilities are economically viable and provide the benefits of local control. Equally important, they provide the only available yardstick and other competition to the big power companies. In this period of spiralling electric rates, the public at large will suffer if these companies expand their monopolies unrestrained and eliminate countervailing influences: they will not be forced to economize; and they will be able to charge whatever retail rates they can get by the state regulatory agencies.

^{*}/ To amend the Federal Power Act to provide for the reform of electric utility regulation by the Federal Power Commission.

The Dingell bill will give the FPC the tools and framework: (a) for protecting these smaller utilities, and

(b) for requiring the electric power companies to operate on the basis of broad regional pools to the limits of public economic advantages, where they now frequently maneuver for private advantage.

The Dingell bill, Title III, would assure small utilities opportunity to participate in ownership in or direct purchase from large, efficient units (§301).

It would broaden and clarify the FPC's authority to compel regional interconnections, coordination and pooling (§302(a)(1)) to assure competitive opportunities for the purchase and sale of wholesale power (§302(a)(2)), and to require power companies to transmit bulk power for other electric utilities (§302(a)(3)).

It would generally broaden and clarify the FPC's authority to deal with emergencies particularly to assure that large power companies with power deficiencies will not discriminate between wholesale and retail customers in any service cutbacks or restrictions (§303).

It would bar the pancaking of undecided rate increase cases, thus forcing FPC to act speedily on these cases and the power companies to cooperate in the furnishing of data and documents, and in the hearing progress (§304).

It would tighten the use of automatic fuel clauses to increase rates without hearings (§305).

It would prohibit the inclusion in rate base of construction work in progress thus preserving the historic requirement that customers rates include only the costs of plant used and useful (§306).

It would express and clarify FPC's authority to prohibit unfair methods of competition in wholesale electric business (§307).

It would establish an independent Office of Public Counsel in FPC to represent the public interest generally before FPC, and in the courts or before other agencies where FPC matters are significantly affected (§308).

It would broaden and clarify the Commission's authority to establish and enforce reliability standards (§309).

It would require that FPC and the Federal Trade Commission make a comprehensive study of the matter of competition in the electric utility industry (§310(a)), and that the Energy Research and Development Administration study the utilization of waste heat produced by electric generators . (§310(c)).

All of these provisions are good in the public interest, and many are necessary if the smaller, locally controlled electric utilities are to have the opportunity to survive; i.e., the protection of fair competition in the wholesale electric business, assurances that the smaller utilities will receive transmission and other power pool services and the elimination of pancaking of unapproved rate increases.

The Federal Power Act, of 1935, provides in Part II for the regulation of interstate wholesale electric power transactions by the Federal Power Commission. It's first purpose is to protect the ultimate consumer by protecting the smaller electric utilities from overreaching by the larger utilities, and thereby protecting the economic opportunity of the smaller systems to survive. This thin line of protection was sufficient for many years but has now become inadequate because of changed conditions. The Act must be amended unless

Congress is prepared to see smaller utilities taken over by the larger utilities, and the emergence of a few regional giant electric power companies. The purpose of Title III of the Dingell bill is to strengthen the Power Act so as to provide the protections required by today's economic realities, and these are the matters which I want to discuss.

Electricity can be distributed and sold at retail as efficiently by small utilities as large ones. There are no appreciable economies of scale for local distribution and there is a public benefit of local control over a public service which effects directly and intimately everyone in the community. As long as the local utility can purchase or generate electricity at a competitive price it can operate a successful system.

Our law firm, Spiegel & McDiarmid, represents municipal electric utilities and rural electric cooperatives in 23 states: Arkansas, California, Colorado, Connecticut, Florida, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Massachusetts, Michigan, Missouri, New Hampshire, New York, North Carolina, Ohio, Rhode Island, South Carolina, Vermont, Virginia and West Virginia. Many of these consumer-owned utilities purchase their full requirements of electric power supply at wholesale from

investor-owned utility companies and distribute electricity at retail. The rates, terms and conditions of their purchases are regulated by the Federal Power Commission. Many of these consumer systems own generating plants sufficient to produce their full power supply requirements and the rates, terms and conditions of their interconnections and power interchanges are regulated by the FPC. Some fall in between, they generate part of their requirements and purchase the balance of their requirements from investor-owned utilities or federal agencies.

The locally-owned, consumer-owned electric utilities are a significant part of the electric utility industry which, on the basis of retail sales, is divided as follows:

284 private power companies:	78.2%
2245 local public systems:	10.4% ^{*/}
919 rural electric cooperatives:	6.4%
10 federal agencies:	3.3%
<hr/>	
* / Municipal utilities	2126
Public utility districts and other state and county systems	<u>119</u>
Total - local public systems	2245

Source: Public Power, APPA, D. C., Jan-Feb. 1976.

Thus, the 3,174 consumer-owned systems (publics and co-ops) sell at retail approximately 18% of the national market, with total revenues of 6.1 billion dollars. They generate some 10% of the nation's energy requirements, and buy from power companies and federal authorities 8% of the nation's energy requirements. Their net plant investment totals some \$20 billion. Collectively, this is a big business, but small compared to the power companies' total revenues of \$61 billion and net plant investment of \$105 billion. Attachment A hereto contains a more complete statistical statement.

The continued viability of consumer-owned utilities is important: they provide a modicum of competition to the private utility monopolies, both as a yardstick and often for loads and service areas. They compete to do a better job for their customers, compete for desirable loads, and compete for the development of economical generation. The competition of a single independent gasoline station in one city produces indirectly through competition savings for motorists throughout a city. The consumer-owned systems put pressure on the private power companies to hold down rates, provide good service, and treat their customers with respect. Their mere existence influences power companies and is a continuing reminder that a public abused may exercise its inherent right to operate directly this public business. Too broad a monopoly, be it private or

public, tends toward the fat of inefficiency and the arrogance of unchallenged authority.

The economics of electric utilities tend to create monopolies, and in many areas of retail service a local monopoly has a reasonable basis to avoid street-by-street duplication of facilities. But monopolies tend to be inefficient, and afford the opportunity for over-pricing and other abuses of power, while government regulation can be only partly effective. Electric utilities need competition to keep them on their toes. Thus, the rule generally applied in the federal courts is to recognize the desirability of preserving as much competition as possible throughout the public utility business in order that competition can serve as a supplement to regulation. Few, if any, regulatory commissions have the staff needed to identify and disallow imprudent costs; but when management is pressed to compete, that's when the underbrush and deadwood get cleared away. Nor do they have staffs adequate to deal with the many complex rate cases presented to them.

The investor-owned utility is not strictly private enterprise. It is quasi-public in nature, it is endowed by the state with certain of its sovereign power, the right of eminent domain, the right to use public roadways, exclusive franchises, and the like, and so endowed for the purpose of the public service it is to render. This concept, plus common law, the Federal Power Act, and the antitrust laws, provide the general basis for their obligation

to provide at reasonable prices and terms the services on the wholesale level which are needed by the smaller utilities to have the opportunity to remain competitive.

There was a time when the economics of the electric industry assured the viability of well-run municipal and cooperative systems. In an earlier and simpler age, small generating units were competitive and could be constructed within local service areas. Small utilities could thus compete, and because of this were often able to negotiate purchase contracts on comparable terms with investor-owned utilities willing to meet the competition, or seeking for policy reasons to dissuade municipal or cooperative generation. In the recent past, however, technological advance resulted in large generators becoming far more economical than small generators. The smaller utilities, to survive, must then have the opportunity to purchase power at fair and competitive rates and have the alternative of participating in the ownership of large units. Large units require large transmission lines, and these in turn lead to the development of large remote units often far distant from the service areas. Thus is born the need for the right to transmit bulk power supplies over the regional transmission networks. This is no longer the problem solely of the small utilities. For example,

two of the largest utilities in the country, Southern California Edison Company and Pacific Gas and Electric Company, have or are planning units in Arizona, Utah and other areas east of the Sierras; and, like local distributor utilities, they need to obtain transmission rights over the systems of other utilities.

Today, the economics of generation is up for grabs with oil prices soaring, with rapid price increases emerging in the marketing of coal, nuclear fuel, geothermal steam, natural gas (unrelated to costs), with major problems emerging in the nuclear generators, and with the growing environmental storm. Even the best engineers find their estimated cost of construction exceeded, often by factors of two and three. I remember well the stampede of the 60's into nuclear generation and the promise of 4-mill power from the Vermont and Maine Yankee nuclear plants. After years of litigation, the Massachusetts Municipal group won the right to purchase directly from these units only to find that actual costs exceeded 12 mills; but even at these prices the purchases are economical because of the faster increases in oil costs. Thus, an important new economic element becomes critical: utilities large and small need to spread their risks, by sharing ownership, or output, in widely scattered large generators; and once again they must arrange for transmission over the lines of other utilities.

The construction of large units creates a need for interconnections, regional power exchanges, and coordinated planning so that all systems operate reliably and economically. Thus, there is a pressing need for development of large generating and transmission pools in which all systems have equal rights of access. The development of the New England Power Pool ("NEPOOL") is the most recent example of such a power pool: the regional interconnected system of generation and transmission, irrespective of ownership, is operated as a single system, and individual systems plan jointly, but compete across the region-wide market exchange to develop and purchase low-cost power supplies in order to better serve their distribution systems, and to meet the competition and comparisons with neighboring retailers. A small utility in New England now has the opportunity to obtain directly a mix of generating resources; and the Massachusetts Municipal Wholesale Electric Company has been established as a mechanism whereby municipal utilities can jointly finance and construct generation in competition, but coordination, with the private companies. NEPOOL provides the New England electric industry the opportunity to offset its burden of high fuel costs, and, relative harmony is prevailing although there are still some sticky matters to be resolved.

NEPOOL is working pretty well. Last year, for example, the Vermont Electric Cooperative was dissatisfied with the charges by Central Vermont Public Service Company for serving its relatively low summer load. The Co-op's manager, Walter Cook, was able to deal directly with the power sales manager for Northeast Utilities in Connecticut, and make a six-month purchase of capacity in peaking generators. That solved the immediate problem, and subsequently an agreement satisfactory to both parties, the Co-op and Central Vermont, was worked out. This illustrates how competition can be more effective than regulation: it would have taken two to four years to have litigated the matter before the FPC, with another two years in the Court of Appeals. Naturally, power companies, dominating a particular area, prefer the old way of doing business. They control the access to the transmission network, and the local municipal or co-op either pays the demanded price for service or spends many dollars and years to vindicate its rights.

Compare the case of the formerly independent investor-owned Holyoke Water Power Company. For many years it competed vigorously with Western Massachusetts Electric Company for

wholesale loads in the area. However, when the major power companies in New England organized the Vermont and Maine Yankee nuclear corporations, and divided up the capacity, they refused to let HWP in, and thus it could not participate in the development of future low-cost power supplies. It could read the handwriting on the wall. It could anticipate that its rates would eventually become higher than that of its neighbors, thus dampening its prospective profits and depressing the eventual market price of its stock. HWP therefore decided to sell out to the holding company, Northeast Utilities (which Western Massachusetts had already joined) while its stockholders could still get reasonable exchange rates for its common stock. As a result, a competitive restraint on Northeast Utilities, the largest electric utility in New England, was eliminated.

A similar situation is in process in Ohio where the American Electric Power system is seeking to absorb Columbus and Southern Ohio Electric Company and creating jeopardy for other smaller investor-owned companies whose opportunities for joint participation in large generators is limited.

Laws are not immediately effective and there are power companies which view the law as that which must be observed

only when the last string is drawn out of the litigation package, only when confronted with an order having immediate, final impact. Thus, when Indiana and Michigan Electric Company, a subsidiary of American Electric Power, refused to refund approximately \$1,000,000 due to the Cities of Richmond and Anderson, Indiana, pursuant to orders of the U. S. Court of Appeals, D. C., and FPC, and threatened to cut off the whole-sale service to cities with a combined population of 114,000 because they rightfully deducted overcharges inconsistent with FPC orders, it was necessary for the cities to obtain the issuance of a Court of Appeals order enjoining the service cut-offs, and also another order directing I&M "to show cause, if any there be . . . why it should not be held in contempt for failure to comply with the judgment and mandate of this Court and respondent [FPC] . . . and refund all incremental charges collected." Only then was electric service assured, and the money promptly refunded.

Provisions of the Dingell bill, which strengthen FPC authority, will reduce the opportunity for power companies to force smaller utilities into lengthy, expensive proceedings to vindicate their rights.

The financing of future plant has also become a crucial economic element of the public utility industry. All available financing sources will be needed to get the collective job done. With a proper pool, and fair transmission rates, the smaller utilities are able to join together to finance and construct large units, or participate with a private company in the ownership of a large plant. An excellent example of such public-private cooperation appeared last year in Florida, when Florida Power Corporation offered some 100 Mw of participation in its Crystal River nuclear plant. Within six months the participation was marketed to a number of municipals and one co-op, complex participation agreements were negotiated, arrangements were made for transmission and back-up and the financing steps were taken.

The major problem faced by the distribution utilities is the breakdown in FPC's process of deciding cases, along with its restricted view of the cases. The Committee should request the FPC to furnish a current record showing the amount of the increases, the dates they become effective subject to refund, the current status of the proceedings, the amounts already collected subject to refund, and its estimate of when it anticipates that the cases would

be decided. I think the Committee will be shocked by the fact that the power companies are being permitted to collect so much money on rates they unilaterally file for so long, without any decision on the merits, or in the foreseeable future.

Pacific Gas and Electric Company filed a \$2.4 million (per year) rate increase September 29, 1972; hearings were completed January 1974; briefs have been filed and we are awaiting decision by an Administrative Law Judge. After the Judge's decision, exceptions are likely to be filed and that can involve six months to two years for final Commission decision. The case is 3-1/2 years old and will be 4 to 5 years old when it is decided. All through this period, PG&E is collecting and using funds without interest, and ultimately it will need to pay interest on the refunds at only 7% and that is non-compounded. That's an easier way to raise money than going to the financial markets.

Then in July 1974, PG&E filed another increase for an additional \$3.1 million. Hearings were completed September 1975 and we are awaiting an Administrative Law Judge decision. PG&E is collecting a second rate increase, although the first has not been decided, and in total is collecting more than \$5 million a year without determination that they are justified.

On a bright day in May 1973, the cities of Anaheim, Riverside, and Banning, California, closed their settlement of a long and difficult controversy with their supplier, Southern California Edison Company. Expressions were exchanged of the intention to work together cooperatively and some millions in checks were handed across the table to the Cities; but, as the Cities rose to leave, Edison's sales vice president announced that he had something else for the Cities. He then handed over a copy of the filing which would be made the next day of a \$16.8 million increase. Edison refused to hold the filing even a short time for opportunity to discuss it and see whether there was any possibility of negotiating a resolution in order to avoid the resumption of litigation. Edison filed the next day, so the detente was unilaterally shattered some 60 seconds after it went into effect. Hearings were completed August 1974; we are awaiting initial decision, and 1 to 2 more years lie ahead before final Commission decision. Seven months after the first filing, in January 1974, Edison added on a \$21 million increase, which is also awaiting initial decision after hearings; and in October 1975,

Edison added another \$17 million increase. Thus, Edison is collecting from its wholesale customers now some \$64 million in rate increases, none of which have been shown to be justified, and the matter will not be resolved for years to come. By December 31, 1975, Edison's collections, subject to refund, totalled over \$90 Million.

Meanwhile, the Cities must pass these on to their customers and, because of the high level of Edison's wholesale rates compared to its retail rates, the Cities retail rates are being forced above the level of Edison's. The Cities are thus placed in a "price squeeze" which we consider to be inconsistent with the antitrust laws and the Federal Power Act.

Edison in the past has engaged in public and private activities to take over City systems, and did succeed in buying out a rural electric cooperative. Attachment B to my statement is a sampling of four memoranda from Edison's files which are matters of public record, relating to Edison's powerful buy-out campaigns during the mid-sixties. You will note on Attachment B-3, a casual memorandum between Edison officials:

"Attached is a bill for \$752.05 from the Colton Courier. Please request a cashier's check made payable to the Colton Courier and return to me for delivery."

The attached bill is entitled "Political Adv." and is made out to an official of Colton, California. Obviously, this payment by hand-delivered cashier's check was surreptitious; since no satisfactory reason is shown why an Edison check could not have been made out and mailed. Moreover, the charge was buried anonymously in Edison's books and the costs included in the rates Edison's customers paid, although this cost, and all other related costs of trying to put a city out of business, are hardly necessary for the production and sale of power at the lowest possible rates.

Significant also is the casual form of the request which suggests that the use of cashier's checks was not an unusual practice. We would know the full story except that we have since been unable to obtain discovery orders from the FPC to cover this matter, although we have tried in the first 2 subsequent cases, and proposed providing independent auditors at the Cities' expense. The matter of such orders is now pending in the current case.

We note in passing that Edison's Board Chairman is a director and a member of the audit committee of Lockheed Aircraft Corporation, that Lockheed's Board Chairman was until recently a director of Edison, and there are other interlocks and business

between the companies. We also note that Edison's President has for seven years been a director of Northrop Corporation, which has admitted to questionable activities similar to Lockheed's.

Indiana and Michigan Electric Company of the American Electric Power System filed a \$6.2 million rate increase in June of 1972; hearings were completed April 1974; we are still awaiting an initial decision, and decision lies far in the future. AEP has long wanted to take-over the Fort Wayne, Indiana system. The increased wholesale rates, although never shown to be just and reasonable, added one more powerful pressure on the City, and I&M has now succeeded in leasing the City system. I&M thus eliminated a painful source of competition. In this case service areas overlapped, and to compete, I&M charged retail customers in the Fort Wayne area the same rates as the municipal charged; while, away from the competition, I&M charged higher retail rates. For example, in 1960 I&M's charge for 500 kwh per month was \$5.40 in the Fort Wayne area (exactly the same as the municipal's) while the rest of its retail customers paid \$7.15 for the same load. In 1970, the same billings were \$7.55 (I&M & Ft. Wayne municipal) and \$9.22 (I&M elsewhere). By 1974, I&M could no longer match the municipal rate, even for its service within the Ft. Wayne area: for 500 kwh/month, the charges were:

Ft. Wayne municipal, \$9.55; I&M in Ft. Wayne area, \$9.62; and I&M outside Ft. Wayne area, \$11.18. Thus, I&M's retail rates were being held down by competition, I&M could not indefinitely continue charging dual rates as public anger mounts in response to the rising electric rates, and so the pressure was put on Ft. Wayne. Many promises were made, including a new office building in Ft. Wayne to sell out. The office building looks unlikely, and the Ft. Wayne citizens will now enjoy the higher I&M statewide rate.

This illustrates how the filing of unilateral rate increases, decided by the FPC only years later, becomes a take-over instrumentality in the hands of a sophisticated company. AEP has in the past carried on typical broad take-over campaigns, including behind the scenes activities. Now, under the Federal Power Act, with a passive Commission, it can accomplish the same thing by filing and making effective, and collecting unilateral, unreviewed rate increases.

Attachment C contains a sampling of documents illustrating and describing AEP efforts to enlarge its monopoly by taking over independent municipal systems. It is characteristic that even small details of the program of taking over small municipals in Ohio were personally directed by the top executives including the Chairman of the Board, out of their Broadway, New York City offices. Even its Vice Chairman (formerly Vice President for legal matters) took time off from legal analysis to direct

behind the scenes the effort to take over the town of Dover, population 11,500, utilizing a family relationship. (Attachments C-7 through C-12) . Dover is another of those competitive nuisances to AEP: its residential rates have been consistently lower than Ohio Power Company's, the AEP subsidiary. In 1964 500 kwh/month cost \$8.42 for Dover and \$9.22 for Ohio Power. The takeover effort failed, and in 1974 500 kwh cost \$8.98 for Dover and \$11.75 for Ohio Power. These yardstick comparisons have a significant effect in restraining Ohio Power in developing its rates. Eliminate the competition and you eliminate the deterrent.

The Dingell bill by preventing the pancaking of undecided rate increases (S 304) would help prevent the use of unilateral filings being used for anti-competitive purposes. It would put the companies under pressure to cooperate to expedite hearings; and the Commission would be under pressure to decide cases more quickly. An alternative solution is that contained in the McFall bill (§ 4) under which no increased charge could be placed into effect until after hearing and final FPC decision. That is the type of procedure found in many state statutes, for example in California, and the power companies have been able to operate successfully. The retail revenues are generally much larger than the wholesale; and therefore the companies would not be injured if FPC applied the same procedures. As it is, FPC can suspend a unilateral filing no more than 5 months, after which it goes at effect subject to refund, but

if the state commission has not acted upon a parallel retail rate increase, the wholesale purchaser may be immediately subjected to a price squeeze. While the companies may claim the price squeeze results from state commission non-action, they can avoid the price squeeze by agreeing to postpone the wholesale rate increase in the interim. It appears to me that the companies are sophisticated enough to plan their state and federal filings so as to appear innocent of causing the price squeeze.

The Dingell bill (§ 307) would make explicit the Commission's authority to prevent wholesale rates from creating a price squeeze. The U.S. Court of Appeals has ruled in the Conway Arkansas case that it already has such authority, but the Commission is contesting it in the Supreme Court. The distributor utilities also have a major stake in §§ 302(a)(2) and (3) which assures them the right to shop for, and have transmitted, the lowest cost wholesale supplies in the area. This would create competition between the private companies for obtaining distributor loads, undeterred by the need for immediate proximity.

The generating consumer systems are interested in the wholesale provisions of the Dingell bill broadening and clarifying under Section 302 the Commission's authority to require regional interconnections, coordination and pooling, to assure competitive opportunities in obtaining and transmitting power supplies. This enables the smaller systems to develop larger units of generation, thereby reducing costs and enabling them

to compete. The electric utility industry generally has adamantly opposed such services and dragged its feet, despite clear decisions of the courts, because of their objective of limiting the competitive abilities of smaller utilities, particularly municipals and investor-owned companies marked for take-over. Attachment D to this statement contains a number of documents which show that much of the industry has opposed these rights for anti-competitive purposes.

One exception to my broad statement above is the FPC's existing authority to compel the providing of transmission services for bulk power supplies. Refusal to transmit in many circumstances is a violation of antitrust law, and also the Nuclear Regulatory Commission has authority to condition construction permits on the requirement that the applicant provide bulk power transmission services. The FPC, which should be the expert agency to handle such matters, takes the position that it lacks authority to compel power companies to transmit power for municipal and cooperative customers. We disagree with the Commission but recognize that the question is clouded by the Supreme Court's decision in the Otter Tail case. In any event, it makes sense to settle the matter once and for all by making the law explicit. Otherwise, it will continue to be a matter of working out transmission rights with the Department of Justice, The Nuclear Regulatory Commission, The Securities and Exchange Commission under the Public Utility Holding Company

Act, or the federal district court, depending upon the context of litigation. I think it better for all parts of the industry to place the responsibility squarely in the hands of FPC.

This legislation is needed. Indeed, it may be time for a broad and deep investigation of the industry. In my view, many of the major investor-owned utilities are still carrying on the kind of activities shown in some of the documents I have attached. There is included in Attachment E a miscellaneous sampling that are self-explanatory. Particularly to the point is the PG&E internal memorandum of July 8, 1968 (Attachment E-2, at page 3) in which it is made clear that PG&E had stated to federal and state officials that "additional peaking capacity from these projects could not be used before 1985." "As a practical matter, however, [the memo states further] we believe that all of the area's hydro capacity could be considered fully usable by 1975 and that there would be room for controlled amounts of additional peaking capacity after that time." Equally interesting is the fact that the same misleading public statement was made in 1974 by an attorney for PG&E at a Congressional hearing, and in a related submission to the General Accounting Office. We call this to the Committees' attention to indicate the care needed in evaluating testimony provided by the industry.

NOTE: ATTACHMENTS TO MR. SPIEGEL'S STATEMENT ARE ON
FILE WITH THE COMMITTEE ON INTERSTATE AND
FOREIGN COMMERCE

A CONSUMER PERSPECTIVE ON ELECTRIC UTILITY REGULATION

TESTIMONY OF

LEE RICHARDSON, PRESIDENT
CONSUMER FEDERATION OF AMERICA
1012 14th St., N.W.
Washington, D. C. 20005

ON

H.R. 12461

BEFORE THE

SUBCOMMITTEE ON ENERGY AND POWER
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE
U.S. HOUSE OF REPRESENTATIVES

April 2, 1976

The author is Chairperson, Department of Marketing,
Louisiana State University, Baton Rouge, La. 70803
Tel. (202) 388-8084

BACKGROUND OF LEE RICHARDSON

Dr. Richardson's current occupation is Chairperson and Professor in the Department of Marketing, Louisiana State University, Baton Rouge. Elected President of the Consumer Federation of America in January 1976, he serves in various capacities with other voluntary consumer organizations including the Conference of Consumer Organizations (Steering Committee) and the Louisiana Consumers League (Executive Director).

He is the editor of three books and numerous articles and is active in professional and academic organizations. He is a frequent lecturer and speaker on consumer affairs and consumer education.

In the field of energy and utilities, he was the first Director of the Office of Consumer Affairs, Federal Energy Administration, until his resignation in August 1974. He served on the staff of the White House Office of Consumer Affairs from 1972-1974 while on academic leave. He had been a consultant to electric utilities prior to 1972 and now appears frequently before the Louisiana Public Service Commission in both telephone and electric rate cases.

CONFLICT OF INTEREST DISCLOSURE

Dr. Richardson is a stockholder in electric utility companies. While a stockholder in the companies affected, he has publicly testified in opposition to them on several occasions on fuel cost adjustments and on a nuclear power plant proposal. He also appeared at a stockholders' meeting in behalf of consumers and small stockholders of the Gulf States Utilities Company.

TESTIMONY OF DR. LEE RICHARDSON

The single most important grassroots consumer issue of the last two years has been electric utility rates. There is little wonder why:

1. Rates have skyrocketed in some areas as a consequence of fuel costs.
2. Rates for large residential users have increased painfully because fuel costs have a longer proportional impact on low kilowatt hour cost customers.
3. Bills have gone up for some in the face of their sincere conservation efforts to lower them.
4. State government agencies have so far been unable to noticeably stop the rate hikes.
5. Consumers don't believe the industry and government explanations of the rate hikes as inevitable and even somewhat desirable.

Most noticeable among the inadequate responses to the consumers' plight have been those from Washington. The industry says it needs more rate increases to produce higher earnings to attract the capital to expand. The Federal Energy Administration and the White House agree. The President's energy message wants higher prices and government subsidy for electric utility interests, for example, by:

- 1) instituting a \$100 billion taxpayer assist to private industry through the Energy Independence Authority;
2. Usurping the states' authority to consider rate requests by imposing a five month federal limit on the state proceedings;
3. requiring fuel adjustment pass-throughs, including taxes;
4. requiring construction work in progress be included in the rate base;
5. increasing tax subsidies through rapid write-offs of many costs of utilities.

The February 26 White House proposals obviously have a different perspective on consumers than consumers do. "Consumer cooperatives" means cooperation among consumer nations in the International Energy Agency. "Producer/consumer cooperation" means cooperation between consumer and producer nations.

TESTIMONY OF DR. LEE RICHARDSON

So much for the Administration's concept of the consumer.

Mr. Zarb's briefing on the President's proposals similarly showed no concern for consumers. He thought "It is kind of interesting" that imported liquid natural gas prices "are up in the \$3.50 to \$5.00 range" but failed to note that LNG at these prices was equivalent to \$21.00 to \$30.00 for the energy equivalent of a barrel of oil.

Perhaps Mr. Zarb would find it "kind of interesting" that natural gas at those prices would destroy the economy of Louisiana by pricing its basic fuel for industry and electric generation out of sight. It would more than double electric rates for consumers and industry in a number of Southern and Western states.

Mr. Zarb's enthusiasm for subsidies and high prices is so unreal in the framework of consumer priorities that it is incomprehensible.

The Federal Power Commission, an independent agency, is not much of an alternative in behalf of consumer interests. Business Week (April 8, 1976) says, "The new Federal Power Commission chairman, Richard L. Dunham, will push hard for more federal help for electric utilities." Dunham wants "tax incentives, loan guarantees, and maybe even direct federal loans," according to Business Week, because electric utilities may need to invest "\$650 billion by 1990."

To date all of the bad news from Washington for consumers adds up to two possibilities:

1. The government is wrong and their proposals are too absurd for us to fear their enactment by Congress;
2. the government claims that it must act to raise prices of energy and electric power to forestall shortages, however distasteful the price and tax consequences may be.

There is a possible need for other legislative alternatives in the consumer

TESTIMONY OF DR. LEE RICHARDSON

interest to keep undesirable trends from continuing, much less going in the direction of the Administration proposals.

H.R. 12461

H.R. 12461 is a step in the direction of positive federal action in behalf of residential electric consumers. In view of the trends of the Administration proposals, however, it may only provide a little relief too late. Consumers should not be led into a trap of believing that even all of the better provisions of this legislation can affect the Administration's thrusts in the opposite direction.

The consumer problems in electric utility regulation are mainly the consequences of misguided energy growth policies. The impact of enormous uncontrolled growth and the government policies that support such growth is the central electric utility issue. H.R. 12461 has to be examined in light of its effects on the growth of the industry as well as the relief it may provide to consumers in the form of rate redesign.

Specific comments are provided on Title II.

TITLE II - Utility rate reform

The application of this title to cooperatives and municipal electric utilities is questionable. Such utilities are close to the people they serve and thus regulation of their rate structures from Washington seems to be a federal intervention of enormous consequence and little real gain. Cooperative managers can be changed by their members very easily. Municipal systems are similarly responsive to local governments. The problems of generally small cooperatives and municipal systems seem controllable by democratic means; and, major reforms of neighboring private utility rates are likely to set examples that will be followed by the smaller systems.

The real problems of rate design and regulation center around the private electric utility companies. Some of these systems are controlled by distant manage-

TESTIMONY OF DR. LEE RICHARDSON

ment, distant owners, and politically distant regulatory processes. The multi-state public utility holding companies such as American Electric Power, Southern Company, and Middle South Utilities are the most distant of all. Thus it is not size primarily, but ownership form, that should determine the scope of coverage of this section.

The minimum standards set by this section are exemplary for their stated purposes. Not all of the specific provisions may meet these intended purposes, but many will benefit consumers primarily by providing rate relief from high and rising costs of electric energy.

1. Cost of service is the time-honored basis of electric rate-making. This rule has been conveniently ignored when utility companies wanted to promote growth (promotional rates and allowances) or meet competition (attract a large industrial concern or prevent it from converting to alternative cheaper sources of energy.)

It should be further noted that telephone regulation has never been based on cost of service, but on the admittedly nebulous concept of value of service. Cost of service is not sacred in utility regulation.

Different utility systems have quite varied assortments of loads and customers. Some may sell 20% of their power to residential customers; others, 50%. The former could lower residential rates with relative ease compared to the latter because commercial and industrial customers would be relatively less affected.

2. There are other reasonable bases for varying from the cost of service standard than residential lifeline rates. Residential lifeline is a plausible concept where the benefits accrue primarily to low and moderate income consumers and where the rate reductions can be reallocated to other customers in a desirable manner.

TESTIMONY OF DR. LEE RICHARDSON

Residential lifeline does not address other related rate design concepts that may be meritorious in other cases. For example, level residential rates may provide relief for small customers and discourage wasteful consumption by larger users with central air-conditioning systems set at 70 degrees.

Rate design should consider conservation effects. Some customers can easily conserve while others cannot adapt as easily. Large industrial users may be able to change industrial processes much more rapidly than consumers can change their furnaces, dryers and air conditioners.

3. Notice of proposed electric rate increases should be provided in the media as well as by mail. The notice should be required within about 30 days of the rate filing as well as prior to the approval of the rate increase by regulatory authorities.

4. The expense treatment of advertising does not eliminate the considerable public relations, personal selling, and other promotional efforts of many companies. Prohibitions against advertising may only cause diversion of funds to these other forms of selling, promotion, and institutional aggrandizement.

5. Partial recovery of fuel costs in adjustment clauses is more easily implemented today now that the surge of increases due to OPEC has been absorbed.

Evidence may show that fuel costs have been quite stable for the last year particularly, and that fuel adjustment clauses served no useful purpose. The automatic adjustment clause has the persistent drawback that it somewhat removes management's incentive to hold down fuel costs.

6. The Office of Electric Utility Rate-making Assistance in FEA places a consumer office in the nation's premiere Administration energy advocate agency. The FEA will smother such an office and other alternatives should be renewed:

- a) The Agency for Consumer Protection - the proposed consumer office;

TESTIMONY OF DR. LEE RICHARDSON

- b) The General Services Administration - the federal purchasing arm with buying expertise;
- c) The Department of Defense - an agency experienced in buying energy for itself;
- d) The Federal Power Commission - an independent agency with electric utility expertise;
- e) Totally independent status for the Office of Electric Utility Rate-making Assistance.

7. The Office of Electric Utility Ratemaking Assistance needs to be as responsive to residential consumers as is possible. A statutory consumer adversary committee should be given the right to hire staff, issue reports, and generally engage in active public review of the Office's performance.

8. The Office of Electric Utility Ratemaking Assistance should be given the flexibility to appear in hearings at the request of local agencies and groups whether they are formal legal parties to the proceeding or not.

Testimony of Ernst R. Habicht, Jr., Ph.D.
Staff Scientist and Director, EDF Energy Program
Environmental Defense Fund, Inc.
162 Old Town Road
East Setauket, New York 11733

Before the House Interstate and Foreign Commerce Committee
Subcommittee on Energy and Power

April 2, 1976

I. Introduction

Mr. Chairman and Members of the Subcommittee:

Thank you for your invitation to appear before you today. My name is Ernst R. Habicht, Jr. and I am employed by the Environmental Defense Fund, Inc. (EDF) as Director of the EDF Energy Program. EDF is a nationwide coalition of scientists, lawyers and economists dedicated through litigation and involvement in administrative government proceedings to the preservation and improvement of environmental quality. It is supported by an active membership of some 38,000 citizens. My concerns lie with energy technology, economics and environmental impacts and I have been particularly involved in the analysis and reform of pricing policies of regulated energy suppliers, principally the electric and gas utilities of the United States which together consume and deliver over half of all the energy in the U.S. economy.

The purpose of EDF's Energy Program is to minimize the total social costs of energy to society. This we can do by (1) insuring that insofar as possible energy consumers pay a price for energy that accurately reflects its marginal cost of supply and (2) making certain that this nation minimizes the total social costs of new energy supplies. If these goals are achieved, we will reduce both environmental damage and consumer costs while increasing both employment and the productivity of capital investment. This points to a central feature of our approach; namely, that there is a broad identity of interest between those concerned with protecting the environment and American consumers, workers and investors. That such an identity of interest can exist (much less that it has been strengthened greatly in recent years) is at best poorly understood even by energy specialists.

For over four years, EDF has been heavily involved in an effort to reform the pricing policies of regulated electric corporations so that rate designs accord more closely with concepts of marginal cost. It has been a long, tedious, undramatic yet surprisingly rewarding battle. In one early major rate case, EDF presented seven witnesses, none of whom were asked a single question by counsel for the applicant utility. But the times had changed by August 8, 1974 when EDF won its first case. On that date the Wisconsin Public Service Commission handed down its Order concerning the Madison Gas and Electric Company (later expanded to encompass all the electric utilities in the state). Since then, EDF has intervened in numerous other jurisdictions and we have been increasingly successful in thwarting a number of pernicious rate proposals as well as obtaining orders for the study, filing and actual implementation of time-of-day rates, most recently in the State of California.

We have made major interventions in the states of Wisconsin, New York, Michigan and California and have played a significant intervenor's role in Arkansas, Colorado, North Carolina and elsewhere. Members of the original EDF team who have since left the organization have had a considerable impact in other states. It is fair to say that we have virtually blanketed this nation with our ideas. Furthermore, we have obtained considerable leverage by providing initial funds or identifying fruitful areas for research and analysis which were subsequently fully funded by state or federal agencies, thus dramatically multiplying the impact and usefulness of our own endeavors.

Nor have our efforts been limited to the electric utility sector. We have begun to apply concepts of marginal cost pricing to such other regulated commodities as natural gas, freight rates, auto tolls and, most recently, water and sewerage charges. EDF's unique internal structure of economists, scientists and attorneys working closely together permits us to better understand the underlying need of rate reform, the economic and technical consequences and limitations thereof as well as the appropriate forum for our arguments. It is fair to say that both regulated utilities and their regulators take us far more seriously today than they did in 1972 or 1973. An increasing percentage of them recognize that the ideas we introduced four years ago are now both promising and practicable.

While I think it is proper to congratulate EDF for these efforts, let me assure you that the past four years have been beset with frustrations and obstacles that no such organization could overcome absent the strong and continued support of contributors both small and large. Arguments for rate reform are technically complex and to this day remain undramatic to the general public and poorly reported even by the most professional of daily newspapers. In fact, outside of a few highly specialized, sparsely read publications, our arguments remain largely unreported or misinterpreted. Of course, a good portion of our funding depends upon our selecting issues that are given attention by radio, television and the popular press. Herein lies a central dilemma for any such group as EDF; namely, the most promising reforms can be least dramatic or seemingly "ahead of their time." Unless sustained by a sound financial base, advocacy for such reforms tends to wither and die. This unnecessarily limits public organizations such as EDF which represent otherwise unrepresented or under-represented interests in our society. It is also a strong argument for some public support of intervention of under-funded interests in administrative proceedings at both the state and the federal level.

I would be remiss if I did not give due credit for other efforts parallel to ours at EDF. Almost exactly one year ago, the Federal Energy Administration assumed an active posture in pressing for rate reforms and load management. Within the FEA, the Office of Energy Conservation and the Environment through its Utilities Program began to actively intervene in regulatory proceedings around the country. Represented for most of the past year by Dr. Douglas C. Bauer and more recently by Mr. Howard F. Perry and assisted by highly competent outside consultants such as Professors Richard S. Bower and Thomas O. Laaspere from the Thayer School of Engineering at Dartmouth, the FEA commenced to argue articulately and forcefully for the identical reforms we advocated. It goes without saying that we at EDF were much gratified by the presence of these FEA witnesses, their able support by such legal counsel as Mr. Bruce Driver and the leadership provided by Assistant Administrator Roger W. Sant. Most importantly, we knew that the FEA had recognized the importance of our arguments and that the participation of these individuals had the full support of their superiors in energy policy matters.

I would urge the Congress to insure that the FEA continue these endeavors notwithstanding the growing likelihood of contrary pressures both from within the government and from outside private interests. It is such efforts as these on the part of the FEA that (despite many other of their programs which we view with concern and even alarm) give us at EDF some reason to believe that federal energy policy may yet be redeemed. Unfortunately, most of our energy policy makers labor under the misconception that the only major hope for solving our energy dilemma is to depend ever more heavily upon centralized energy supply technologies with a view that the long term cost trends for energy supply to the U.S. economy will again turn downward. So in EDF's view, the FEA's intervention in electric rate cases and its funding of related demonstration projects stand out as the foremost examples of a new federal energy policy which has not been captured by those utterly imbued with the conventional wisdom of an outdated era.

Also, other consumer and environmental groups, many of whom enjoy only the sparsest financial support, have emulated our efforts and have pressed for a similar array of reforms. To their great credit, a number of state agencies have endorsed the concept of marginal cost pricing as applied to electric utilities. An increasing number of innovative regulators, who understand that the only way to reduce electricity costs is to improve the efficiency with which resources dedicated to the production of that commodity are utilized, should be properly recognized for withstanding intense pressures and coming forth with wise decisions in the face of adversity. And a small but growing number of utility managers are deserving of praise for their objectivity and fortitude in analyzing the issues and understanding how the growing disparity of interests between their customers and their stockholders can be minimized through the application of marginal cost-based tariff designs.

II. The Strong Points of HR12461 and the Clear Need for Federal Legislation

Over the past four years of actively pursuing certain of the goals of this legislation, it has become clear to EDF that the pursuit of economic efficiency has great merit. If efficiency be the goal, equity and fairness will necessarily follow. But if some subjective concept of "fairness" is pursued, it may be impossible to attain equity or efficiency and, ultimately, even the fairness sought will be lost.

To EDF, the fundamental reason for enacting federal legislation for tariff reform is, as stated in the Act: "...to establish national minimum standards for electric ratemaking in order to assure that States which implement rate reforms are not placed at a competitive economic disadvantage by reason of the failure of other States to implement such reforms." In no way should this be construed as implying that the first state to adopt marginal costs as the benchmark for rate making will be placed at a competitive disadvantage. Rather, it is clear that there will be some losers and a great number of winners in any state which undertakes such reforms. The losers will invariably make the argument that they will be placed at a competitive disadvantage and will therefore move to another state or region of the nation. But to dismiss this as economic blackmail to preclude progress is simplistic.

Most industrial and commercial customers who feel that such an argument is valid have simply not examined their competitive positions in such a manner as to take into account the general increase in business activity when costs of electricity to other consumers in their state or region are lowered. The dilemma is that it is all too easy to make a knee jerk response to change of any sort since the data and analytical tools for calculating the true competitive advantages pursuant to change are either unavailable or are difficult to grasp. Nonetheless, a relatively small number of large consumers of electric power may have been given a net subsidy by past rate making practices and may be placed at a competitive disadvantage should they be confronted with marginal cost-based rates while other regions retain outdated pricing policies. It is to these customers our attention to federal legislation should properly be directed.

While the motives for federal legislation stem largely from consumer protests over electric utility rate increases of the past few years, there are as yet virtually untouched regions of the country which have every expectation of electricity prices rising dramatically regardless of the prognosis for utility fuel costs. In particular, the Pacific Northwest which has enjoyed the great benefits of partially subsidized hydropower for decades is now in a position where growth in electrical loads dictates incremental costs an order of magnitude higher than those of the past.

Also, those states which enjoyed the benefits of combusting cheap, clean natural gas in relatively inexpensive generating stations can look forward to far more expensive nuclear and coal-fired capacity as well as finding more expensive replacement fuels for existing gas-fired generating units. Thus, it is reasonable to predict that the shockwave of electricity utility price increases will spread from the East, Midwest and Far West to the Pacific Northwest and Southwest. Furthermore, the more rapid the growth in demand for electric generating capacity, the more abrupt the shock of price increases will be.

The electric utilities are but the first of a number of regulated firms facing crisis upon crisis. An imminent dilemma confronts the gas utilities and their customers since the prognosis for gas costs is substantially higher in the years to come regardless of decisions concerning deregulation of wellhead natural gas prices. The supply of water and sewerage services will also be characterized by dramatically increasing costs in the years to come. Thus, legislation regarding the first major dilemma confronting regulated firms should take into account the considerable likelihood of further problems in other sectors in the none too distant future.

It seems poorly understood even by most perceptive utility analysts that the fundamental reason for the great success of utility tariff designs over more than eight decades was that they were at least crudely premised on considerations of marginal costs. The timely arrival of ever more superior technology and economies of scale dictated that as the industry grew, the production costs of additional kilowatt hours fell. Likewise, the marginal environmental costs of production fell with increased generation efficiency, gradually superior environmental control technologies and the increasingly favorable competitive position of cleaner fuels. The basic tariff design in place during this benign era of growth, the declining block rate, ought be viewed in perspective as accurately reflecting the fact that the marginal total social costs of producing and delivering electricity were falling. During this era it made considerably more sense for utilities to engage in what we now term as promotional activities to improve load factors. It is noteworthy that when utility managers engaged in such practices they often advanced arguments that were premised upon considerations of marginal costs; namely, that

preferentially low rates could be given for consumption patterns that were primarily off peak. Marginal costs also tend to form the backbone of inter-utility contractual interchanges of electric power. These theories are also relied upon in the sale of interruptible power, whether it be of a diurnal or seasonal nature. So application of marginal cost to electricity rate-making is by no means as novel as our opponents would have you believe.

But the long term downward trend of utility costs has come to an end and no immediate return of the benign era can be foreseen. Thus, it makes far more sense today than ever before to pay close attention to the application of marginal cost-based rates to a far wider array of customers than heretofore obtained. Marginal costs for generation of electric power are now considerably higher than average costs for most utilities and it has become irrational to engage in promotional practices to improve load factors without simultaneously warning customers that consumption during peak periods will occasion (sometimes drastic) increases in cost. Furthermore, to accomplish this task we have in hand a variety of superior technologies in the form of suitable, cost-effective metering devices to price power by time-of-day even for many small customers. While it makes sense to impose time-differentiated pricing regardless of the long term cost trend curve for electric utilities, it is clear that the benefit-cost ratio for doing so is considerably higher today than in previous decades.

Thus the endorsement of marginal cost-based electricity rates as spelled out by HR12461 rests on solid economic and technical ground. Opposition to the concept is centered in some of the utilities and certain of their large customers. Unfortunately, but not surprisingly, the very utility executives most inimical to change are those who dominate some of the industry-sponsored studies of tariff reform. They remain partly successful in placing the burden of proof on those who advocate change. Earlier successes of marginal cost-based electricity tariffs in France, Germany, the Commonwealth Nations and elsewhere, are dismissed by them as being inapplicable to the U.S. The pivotal argument by opponents of change is that we lack indigenous data and therefore our utility industry must develop its own studies and gather its own data. But every year of delay is a year in which customer decisions about appliance,

equipment, housing and plant acquisitions are made based upon wrong economic signals. The direction of change is now sufficiently clear so that we can initiate reforms without risk. To further delay reform is to impose unnecessary costs, even real economic damage, upon our society.

III. Suggestions for Modifying HR12461

A. Subsistence Rates: Section 203(a)(3) Should Be Deleted.

The concept that a "subsistence quantity" of electric energy for residential electric consumers ought be priced at a rate no higher than that paid by other electric customers within the jurisdiction of the same regulatory authority seriously flaws this Act. The reasons for this include:

- (1) It assumes that electric corporations are a suitable instrument for the redistribution of wealth;
- (2) It assumes that, unless "...an adequate alternative means has been implemented to alleviate the burden to low-income residential consumers of the high cost of electric energy," all residential electric customers ought be treated equally with respect to their need for relief;
- (3) It assumes that electrical energy is an adequate substitute for money in assisting the poor;
- (4) It departs from the fundamental premise of this legislation that rates for electric power ought properly reflect the marginal cost of supply; and
- (5) It assumes that all residential customers can be treated as physically identical with respect to conditions of electric service and thus ignores such genuine problems as landlord-tenant relationships or the lack of submetering in numerous multiple dwelling units.

As presently worded, Section 203(a)(3)(A) could possibly lead to an unintended outcome in several ways. First, there is general agreement that the most important marginal cost signal to be rendered accurately is that for peak period consumption. Should surplus revenues be returned to customers, it might well be advisable to do so

in off peak periods (i.e., off peak rates would fall below off peak marginal costs). But such low rates are likely to remain artificially high, sacrificing the accuracy of peak period price signals, since the lowest rates would become the benchmark for the "subsistence quantity" rate. Great centralized regulatory oversight would be required to insure that such an outcome remained unlikely.

Second, this section can be interpreted in various ways depending upon whether or not the residential customer were equipped with a time-differentiating meter. In fact, the decision rules dictating whether or not such a meter should be installed will be seriously impacted possibly at unnecessary costs to society.

Third, if applied today, this section would lead to very low subsistence rates in those parts of the country where industrial customers are served at the bus bar of low-cost generating facilities (e.g., the Pacific Northwest) and far higher subsistence rates in such service territories as Consolidated Edison or Boston Edison. It is by no means clear that a parallel disparity of need exists among the poverty-stricken electricity consumers of these regions.

It must be recognized that, given the technical and economic prognosis for the regulated natural gas sector, there will be considerable pressure to emulate Section 203(a)(3) of this Act in other areas. While there is some (but by no means everywhere good) correlation between increasing electricity consumption and increasing disposable income up to moderately high incomes, such correlation is largely absent for natural gas use. This is so because natural gas is heavily used by residential customers for home heating. Many of America's poor live in substandard, underinsulated or uninsulated gas-heated housing units. They require insulation rather than subsidized natural gas.

We need to better recognize that every residential consumer of electricity buys that commodity in two different ways. First of all, there are the direct and obvious costs of the monthly or bi-monthly utility bill which represents the consumer's direct acquisition of electricity. However, even the smallest utility customers buy electricity in a second way in that they pay prices for goods and services that reflect the cost of electricity embodied in their production, transportation and sale. Typically, consumers

acquire rather more than two-thirds of all their electricity indirectly and pay for it in the prices of those goods and services which they purchase. This is the fundamental argument for implementing new metering strategies and new load management technologies among the very largest industrial and commercial customers first and then proceed downward towards some point of diminishing returns. If the metering strategies required to impose time-differentiated rates prove uneconomic for any reason (e.g., submetering may be prohibitively expensive), some electric customers will never be remetered. But to subsidize their direct costs out of their indirect costs may leave them worse off than before.

B. An Alternative to Section 203(a)(3)

It would seem wise to divert our legislative energies from the implementation of "subsistence rates" to another far more important area. This has to do with home improvement and the selection of consumer durables by small electric customers. In consideration of high and growing capital costs of electricity supply and high fuel costs in many regions of the country, it is increasingly clear that small electric customers are making uneconomic consumption decisions when they purchase electricity-using devices. When energy costs double or triple, the immediate consequence is to render most of the nation's housing units and appliances uneconomic with respect to their optimal efficiency of energy use. Yet few consumers can balance a discounted stream of savings on their utility bills against the present cost of retrofitting insulation or replacing an inefficient appliance with an efficient one. Mandatory efficiency labeling of appliances is a step towards providing better consumer information. But what we need to worry about most is the application of capital investment to those small end uses which cumulatively dictate whether or not we need to add very large amounts of costly generation, transmission and distribution equipment as well as burn expensive fuels to produce electricity for inefficient patterns of consumption.

We must examine the institutional barriers to more intelligent consumer decisions and, where indicated, carve out a new role for electric corporations in the nation. We must consider a number of new strategies including: (1) minimum appliance standards; (2) expanding the rate base of regulated corporations so as to include highly efficient,

long-lived appliances; and (3) employing the utility (and permitting it to make a profit) as a channel for investment funds directed to the selection of more rather than less efficient appliances. Our attention must be targeted to the smallest of electric consumers since the largest customers are provided with both much more adequate information and more accurate electricity price incentives and can of their own accord make cost-effective decisions. But we ought to insure that there be no legal or regulatory impediments for larger customers who can minimize their costs by relying on total energy systems and the like.

The arguments for effecting more efficient end use of electrical energy have attained overwhelming proportions. It cannot be overemphasized that the primary benefits associated with the more efficient rather than the less efficient appliance or housing unit are to be found largely in the savings of energy (namely, that energy not used to produce electricity) during the time between the connection of the appliance and the final arrival of a new nuclear or coal-fired base loaded unit which must be built to meet the growth in electrical load occasioned by inefficient end uses of electricity. This is so because of the long lead time associated with the construction of new base-loaded electrical generating plant and points to the policy limitations of depending too heavily upon new electricity supply; namely, we forego an enormous amount of near term savings by investing capital so as to minimize costs in the future. And when we dedicate this scarce capital to electricity supply and neglect indicated improvements in the efficiency of our electrical demands, we ignore the one strategy which offers the swiftest return on investment today.

Some specific examples are illustrative. For the combined reduction of one kilowatt of capacity and 1000 kilowatt hours per year by using more efficient air conditioning units, the savings to society on a 10 percent discounted cash flow basis over the ten year life of the appliance have a present worth in excess of \$300.00. This assumes that the connected load of air conditioning units is best met (in a cost-minimizing utility construction program) by the construction and operation of gas turbines. This large amount of savings is properly the upper limit for the investment to improve the efficiency of the appliance, market the superior product and finance its purchase. It can be safely

estimated that the costs of such improvements range between \$50.00 and \$100.00. Thus, the costs to society of not selecting the more efficient appliance are substantial.

With respect to improving the efficiency of a more nearly base-loaded end-use, let us examine refrigerators. It can be calculated in the same fashion as above that the savings associated with reducing the capacity serving these appliances by 139 watts together with the consumption of 980 fewer kilowatt hours per year amount to approximately \$250.00. (Precisely such a refrigerator was the subject of a recent detailed analysis: see "Energy and the Refrigerator" by George C. Newton, Jr., in the January 1976 issue of Technology Review published by the Massachusetts Institute of Technology.) The sum of \$250.00 derives from the present worth of a cost-minimizing construction scheme associated with building that portion of base-loaded nuclear plant and fossil-fired peaking capacity needed to handle the load requirements of the refrigerator together with the discounted present value of fuel savings for a utility which must resort to oil-fired capacity to meet a portion of base loads today.

As for the savings associated with the more rather than the less efficient refrigerator, of the total of nearly \$250.00 over the 14 year life of the appliance, nearly \$210.00 (or roughly 84%) are associated with the utility's not having to run a portion of its least efficient fossil-fired generation stations. Of this, \$175.00 (or about 70% of the total savings) represents the fuel cost reductions during the lead time of the construction of a new base-loaded generating station. Another way of stating this is simply that if policy makers think that nuclear or coal-fired capacity ought to be installed in order to reduce utility fuel costs, they have ignored the far superior strategy of using electricity with greater efficiency. It is to this dilemma that I suggest that the Congress and regulatory authorities dedicate their attention so that we find superior ways to invest in new energy supplies whether they be in the form of efficiency improvements in houses, buildings, appliances or other energy-intensive devices that have been rendered substandard or obsolete by recent fuel price increases.

C. Application of Principles of Marginal Cost Should Not Be Subject to the Misinterpretation That Individual Utilities Are Either Isolable Entities or Necessarily Similar With Respect to Their Installed Capacity and Patterns of Customer Demand

In order to minimize the costs of building and operating electric utilities, state or regional power pools are preferable vehicles both for planning capacity additions and, on an instantaneous basis, for dispatching electric power. The formation of power pools is economically most attractive when considerable diversity in supply or demand exists between individual proximate utilities. For example, a strong justification for inter-ticing the Pacific Northwest lay with the diversity of stream flows in that region. There maximum hydropower capacity was available downstream during heavy winter rains and upstream some months later when heavy runoff was provided by melting snow.

Other power pools are engendered by virtue of diversity of demands which occurs between the winter-peaking Ontario Hydro system and the nearby summer peaking New York and PJM power pools. Within an individual power pool, some utilities may experience maximum demands in the winter, some may have roughly equal demands during both winter and summer or, with heavy air conditioning or irrigation loads, others may be entirely summer peaking. When this occurs, it is most rational to have each interconnected utility price electricity so as to reflect the load curve of the entire power pool. This will minimize costs to all interconnected utilities and is rational inasmuch as the power pool is the appropriate planning vehicle for capacity addition.

For the majority of utility systems in the United States, the potentially available capacity is somewhat greater in winter than in summer. This is so because the efficiency of steam plants, fossil-fired peaking capacity, transmission and distribution all tend to go up as ambient temperatures fall, other parameters remaining equal. Taking into account the need for routine maintenance, refueling of nuclear plants and the like, the appropriate benchmark for generation capacity additions is the probability of loss of load at any given time. The same is true for construction or reinforcement of transmission and distribution equipment.

In order to render Section 204 less ambiguous, we recommend that the following language be substituted for the first sentence of Section 204(b)(1):

"The term 'load management techniques' means any technique to affect the load pattern so as to minimize the need for or the cost of new generation, transmission and distribution capacity."

The remainder of Section 204(b)(1) should remain unchanged.

D. Participation in Regulatory Proceedings by Electric Consumers

We strongly support the provision in Section 208 of the Act for the compensation of public interest intervenors in electric utility rate proceedings. We are concerned that the definition of "electric consumer" in Section 103 a)(2) may be subject to misinterpretation. We feel that in order to unambiguously establish the system of compensation which is clearly the intent of the Act, the following language should be added to Section 103(a)(2):

"It also includes any organization at least one of whose members is an electric consumer."

Thank you for this opportunity to present our views.

CURRICULUM VITAE

Ernst Rollemann Habicht, Jr.

Telephone:

(i) 516-751-5191
(ii) 1-847-34-7180I. VITAL STATISTICS

- A. Age: 37
 B. Date of birth: December 22, 1938
 C. Place of birth: Charleston, West Virginia
 D. Citizenship: United States
 E. Dependents: Wife and two sons

II. EDUCATION

<u>School</u>	<u>Degree</u>	<u>Discipline</u>
Harvard College	A.B. (1960)	Chemistry
Stanford University	Ph.D. (1967)	Chemistry

III. EMPLOYMENT AND FELLOWSHIPS

- 1967-68 USPHS Postdoctoral Traineeship in Biology, Department of Biology,
University of California, San Diego.
 1968-69 USPHS Postdoctoral Traineeship in Biology, Department of
Neuro-sciences, University of California, San Diego
 1969-71 Assistant Professor of Biology and Lecturer in Chemistry,
Departments of Biology and Chemistry, University of California,
San Diego, La Jolla, California
 1971- Present Staff Scientist with the Environmental Defense Fund, 162 Old Town Road
East Setauket, New York 11733
 1974- Present Director, Energy Program of the Environmental Defense Fund,
162 Old Town Road, East Setauket, New York 11733

IV. PROFESSIONAL SOCIETIES

- A. American Association for the Advancement of Science
 B. American Chemical Society
 C. The Chemical Society (London)
 D. Sigma Xi
 E. New York Academy of Sciences

V. SELECTED PUBLICATIONS AND TESTIMONY ON ENERGY TECHNOLOGY AND ECONOMICS

- "The Northern Plains Coal Resource - Case Study in Public Non-Policy" in Energy: Demand, Conservation and Institutional Problems, edited by Michael F. Macraakis, The MIT Press, Cambridge, 1974.
- "The Social Origins and Economic Basis of the Demand for Electricity," a paper published in Energy in New Zealand, Proceedings of the first New Zealand Energy Conference, the University of Auckland, May 25, 1974.
- "Towards Resolution of a Conflict Between Energy and the Environment" presented at the Conference on the Measurement of Social and Economic Data and Public Policy, the University of Texas at Austin, April 10-11, 1975 (to be published).

- 4., "Energy-Intensive Industries Facing the Prospect of Peak-Load Prices" in Energy Research Reports, Vol. 1, No. 1, May 1975.
5. "The Energy Puzzle: Electricity Rates, Space Conditioning and Load Management" in Load Management, Conservation Paper No. 24: The Proceedings of the Conference on the Challenge of Load Management, June 11-12, 1975, Office of Utilities Programs, Federal Energy Administration.
6. "Common Goals for Power Producers, Users" in The Commercial and Financial Chronicle, August 18, 1975.
7. Testimony before the New York Public Service Commission in Case No. 26402, defended in August, 1973.
8. Testimony before the Atomic Energy Commission in Docket No. 50-410, defended January 1974.
9. Testimony before the Federal Power Commission in Docket No. CP73-131, defended February, 1974.
10. Testimony before the Senate Public Works Committee, presented May 7, 1975.
11. Testimony before the Colorado Public Service Commission in I & S Docket No. 935, October 1975.
12. Testimony before the North Carolina Utilities Commission in Docket No. E-100, Sub 21, defended December 1975.
13. Testimony submitted to the Iowa State Commerce Commission in Docket No. U-546, January 9, 1976 (to be defended).

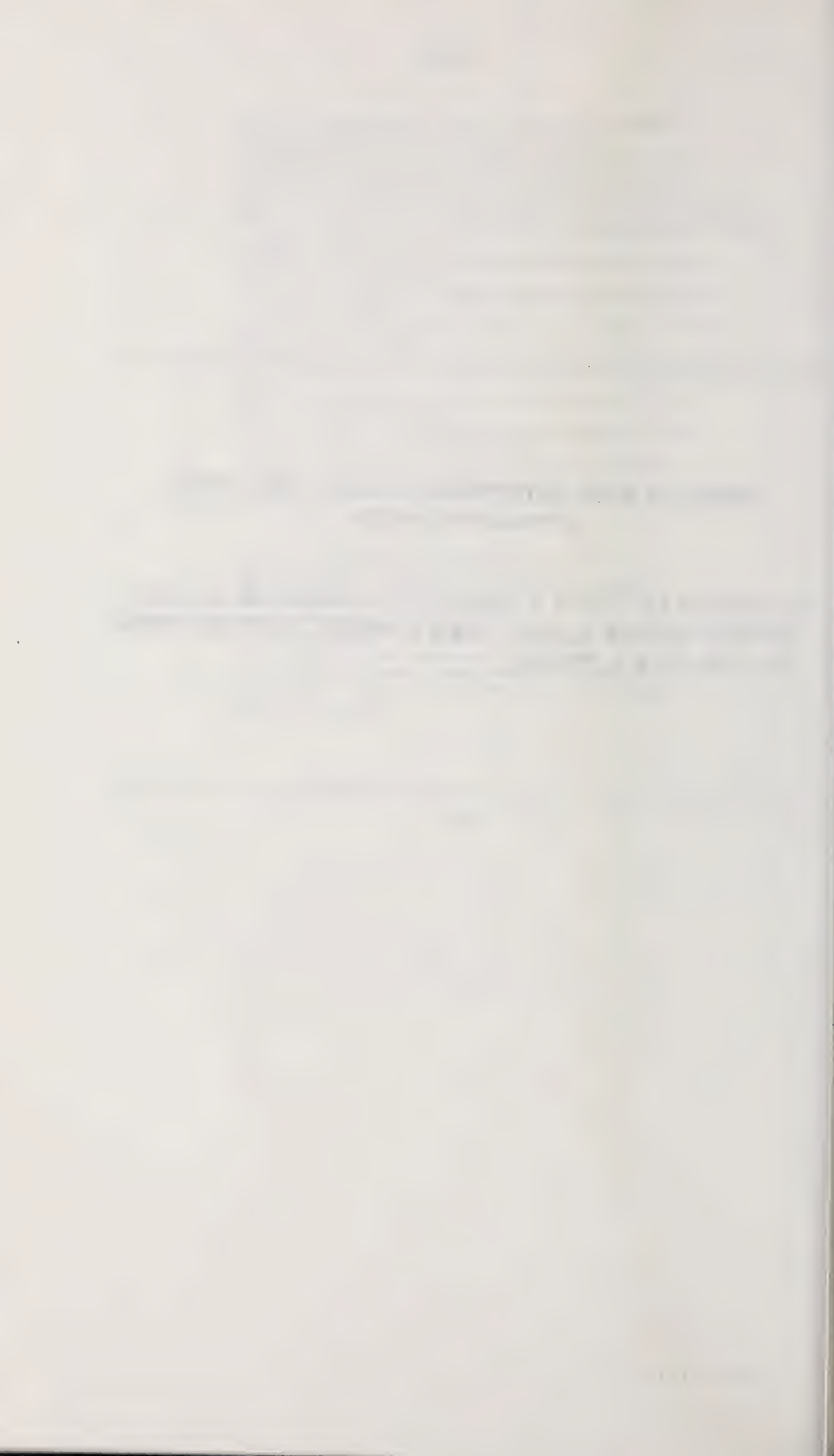
VI. ADVISORY POSITIONS AND CONSULTANCIES

1. Atomic Energy Commission (now ERDA), Fall, 1973.
2. Oak Ridge National Laboratory, 1974 to present.
3. The Energy Advisory Committee of the Governor of the State of New York, 1974-1975.
4. Office of Technology Assessment, 1975.
5. Member, Citizens Advisory Committee to the Chairman of the New York Public Service Commission, 1975 to present.
6. Federal Power Commission, Natural Gas Survey, Transmission, Distribution and Storage - Technical Advisory Task Force - Rate Design, 1975 to present.

PANEL ON FUEL ADJUSTMENT CLAUSES AND OTHER
AUTOMATIC CLAUSES

STATEMENTS OF: JERRY D. GEIST, JOEL R. JACOBSON, GERALD R.
BROWNE, GORDON W. HOYT, JOHN T. SCHELL, WINFIELD MOSES,
JR., AND JACK L. WEISS

(587)



Mr. Chairman and Distinguished Members of the Committee.

I am Jerry D. Geist, Executive Vice-President of Public Service Company of New Mexico (PNM), which has its principal offices in Albuquerque. I thank you for the opportunity to appear.

I am aware of the witnesses you have heard this past week as well as those you have scheduled for next week and I am generally familiar with the topics they have and will address. Therefore, I shall make every attempt not to duplicate their testimony other than to say that for my remarks to be meaningful, they must be considered in the context of higher fuel costs, rising interest rates, huge expenditures for environmental control equipment and dwindling supplies of oil and gas; all of which add up to projections of tremendous capital requirements for electric utility expansion. Each of these topics has a special relevance to my remarks concerning Section 203 (b)(1) of H.R. 12461 which would prohibit state regulatory authorities from allowing any rate increase without an evidentiary hearing. As we understand this section, it would proscribe, if in fact it is not specifically intended to proscribe, the method of fixing rates to which PNM has been subject for the past year and which has been designated the Cost of Service Index or Indexing.

In its oversimplified form, Indexing provides for a quarterly review of PNM's operations, revenues and expenses which ~~which~~ results in a pro forma determination of the return on equity. If this pro forma calculation shows the return on equity has been less than 13.5%, rates in the next quarter are raised to a level which would have produced equity earnings of 13.5%. Conversely, if the calculation reflects a return on equity the previous quarter in excess of 14.5%, the next quarter rates are reduced to a level which would have produced that level of earnings. This is a simplified way to fine tune rates although, since pro forma is historic, the significant problem of regulatory lag remains but is somewhat offset by the security of quarterly review and adjustment.

Leaving this oversimplified version of the mechanics for a moment, I would like to develop the genesis and history of the Indexing approach. In December 1973, we filed a rate case seeking an approximate 12% increase in revenues. Because of our Commission's crowded docket, hearings were not scheduled until March 1974, by which time we had amended the original request and sought an increase of approximately 18% based on a 1973 historic test year, that being the procedure used by our Commission. For your information and in line with the testimony you have heard regarding rate structures, our then proposed rates reflected Long Run Incremental Cost design considerations and a class Cost of

Service Study backed up by what we believe was the most proportionately extensive load profile study of any utility in the nation. We dropped from a five block rate structure to three blocks, increased our residential tail rate, implemented a summer-winter tail block differential and eliminated any promotional rate; all of which had the effect of significantly flattening our rates.

The original rate hearings were conducted with the most extensive, knowledgeable and detailed intervention of any in which PNM had ever been involved. Intervenors included a University-housed environmental and consumer organization, the Legal Aid Society representing low and fixed income clients, and individuals.

In late October 1974, our Commission, only days before its statutory limit for action elapsed, issued its order allowing approximately 44% of the amount requested and determined a 14% return on equity was required if we were to attract the necessary capital. However, we felt that the rate level they approved had no chance of producing the approved return. We then faced the question of whether to accept the 44% and immediately file another rate case or appeal to the courts. We chose to file our appeal and simultaneously carry on negotiations with the intervenors and Commission staff. Then in November 1974, we were allowed by the Court and the Commission to put our originally proposed rates into effect.

My tale of woe thus far probably sounds familiar to each of you from your conversations with your local utility representatives. It was and is still being duplicated in nearly every jurisdiction. But in New Mexico, a sincere mutual respect evolved from which each party realized that all of us were really aiming at a common goal which I will attempt to articulate. That common goal began with the fact that New Mexico ranks 49th in per capita income and a realization that an adequate future supply of energy is essential if we are to improve that ranking. Yet we were all concerned that that energy be provided at the lowest reasonable cost while preserving the Company's financial viability in order that we could not only attract the capital necessary to provide the service but also attract the capital required to construct the facilities necessary to meet and, as has generally been our practice, exceed the stringent New Mexico environmental control regulations.

This mutual respect facilitated an admission by the staff and intervenors that a 1974 test year would again show a significant revenue deficiency, yet none of us desired for so immediate a return to the traditional rate case battlefield. This "acceptance" of a common goal and a desire for a more responsive regulatory system led to a revival of a concept which had been hinted at, but not openly discussed, during the final stages of the 1973-74 rate case, i.e., the Indexing concept. (It is our under-

standing that the Commission's attorney had advocated such an approach to the Commission in its deliberation of that case but it had been rejected.)

Without going through a further blow by blow description of its evolution, suffice it to say that a public hearing was held on the Indexing concept in March 1975, at which time it was supported by the Commission staff, the intervenor groups and PNM as well as having had received the editorial support of several newspapers in the state including the two largest. On April 22, 1975, the New Mexico Public Service Commission issued its decision and order on the Cost of Service Index. Since then, we have calculated and made three quarterly adjustments and thus far each has been less than the previous; however, we do not expect this trend to continue.

Even though I suspect it is difficult for many to believe that an innovative, workable solution to such a complex problem might be conceived in New Mexico, we believe it is working well and should be allowed to continue to see if it provides the anticipated benefits. These benefits impact upon the common goal articulated above and the achievement of that goal depends almost solely on the attraction of capital. PNM is relatively small for a utility--a gross plant investment of some \$400

million at year end 1975--but our construction budget for the five years 1976-80 is \$841 million. We anticipate that \$580 million of that will have to be raised externally. This focuses directly on what we anticipate the primary benefit of Indexing will be--i.e. savings in the cost of capital. This savings is therefore the principal reason for Indexing's conception and varied proponents.

In 1973, PNM was rated AA for the first time by both major rating agencies. When the original decision in the 1973-74 rate case was announced, we were fearful that we would join some eighty other utilities which had had their senior securities recently downrated. We are convinced that absent this innovative decision PNM would have at least lost its AA credit rating with the resultant increase in the cost of debt capital of .9 of 1 %. Considerable expert testimony was taken which indicated that the systematic review and rapid fine tuning type adjustment would provide significant additional confidence to equity investors so they would indeed be willing to pay a premium for capital supplied to PNM because of the improved security of the regulatory process. The parties concerned therefore took the plunge--if you can do such a thing in dry New Mexico; the NMPSC set a rate of return 150 basis points or one and one-half percentage points below what PNM estimated to be the cost of equity.

Indexing allows for a one-half % band around this lowered point; this band assures management incentive is retained. This incentive is real because the difference to our share-holders between a trailing 13.5% return and a 14.5% return means approximately \$840,000 per year. This amount is significant when one considers our net after taxes and preferred dividends was \$8.3 million in 1975.

If I might digress for one moment, I would like to expand on my designation in the previous sentence of a "trailing 13.5% return". It is important to understand that the Indexing adjustment will never by its operation assure or guarantee a 13.5% return on equity because it is not retroactive, but rather it is an adjustment made after the fact which would have brought the return to that level.

Two additional safeguards have been built into the system to protect the consumer and the Commission. The first is that no adjustment can be made until after a verification audit by an independent auditing firm reporting directly to the Commission is completed. The Commission has also retained its absolute authority to hold hearings on and cancel Indexing at any time.

Our Commission has expressed satisfaction with the operation of the clause because, in addition to strengthening the Company's ability to attract capital at a lower cost, it has, to a great extent, freed members

of the Commission and its staff from the tyranny of rate cases. The effect of this is, and I think the members of this Committee will find this of particular interest and importance, that it allows the Commission to dedicate its limited resources to areas of tremendous importance to the consumer, i.e., rate design, growth projections, generating fuel mixture, etc. It is my thought that a Commission, faced with the limited resources problem which is the bane of all our existences, can have a more profound impact in its protection of the consuming public by devoting its energies in these areas than it can by sitting through the technicalities and drudgeries of a traditional rate case.

We do not propose or suggest that the Indexing concept be used to regulate all utilities. But independent studies indicate that the system is allowing us to attract capital at lower rates than would otherwise be possible. In fact, it appears that because of these savings, the increase in our rates will be only one-half what they otherwise would be, if this innovation^{UC} approach is maintained to test our current results.

Therefore, we think that as Indexing is fitted to our particular company, it is worthy of continued implementation and experience. And it is for that reason that we oppose Section 203 (b)(1) of H.R. 12461 specifically and respectfully suggest this case study is indicative of the maladies of the bill as a whole. The electric utility industry is a complex

industry with each jurisdiction and each company within each jurisdiction facing different problems and trying to work out the best solution to the mutual benefit of the company, its shareholders, its customers and its commissioners. It is true that each stockholder wants to earn more, each customer wants to pay less and each utility commissioner wants to be loved by all. There are no talismanic omniscient answers, but we in New Mexico think we are well on our way to solving our problems to the benefit of all concerned and I suggest it would be a mistake to shortcut our efforts.

My name is Joel R. Jacobson, and I am President of the New Jersey Public Utility Commission.

I am grateful for this opportunity to testify this morning and wish to commend the Chairman and the Committee for seeking solutions to this most complex problem of soaring utility rates.

The initiative you are demonstrating by holding these hearings is a clear recognition that "Business as Usual" tactics are not acceptable. I agree enthusiastically.

The New Jersey Public Utility Commission offers its full support as you challenge this status quo and explore new concepts and radical approaches in the quest for meaningful solutions to skyrocketing utility rates.

Because my testimony is confined to the sections of the bill dealing with fuel adjustment clauses, I cannot react to the many other details of the proposed legislation.

I must, however, offer the thought that regardless of how noble your motivation may be, I feel the strong compulsion to resist "Big Daddy" in Washington telling us what to do.

There are 2 major reasons for this feeling:-

1. In New Jersey, we are already -- and have been for a long time -- either evaluating or implementing all of the major substantive recommendations contained in H.R. 12461.

2. Far too often in the past the Administration and the FPC -- if they are the "Big Daddies" have urged upon us policies which are wrong and harmful.

The ability to render judgments, make decisions and exercise options is a condition which we are jealously and zealously reserving for ourselves.

The concept of automatic rate increases troubles me deeply. I can recall only too vividly the excesses of World War II's "cost-plus" billing practices of America's giant corporations.

As a regulator, I do not believe the New Jersey Public Utility Commission should be the passive transmitter of unexamined costs.

Nonetheless, it is a sad fact that as the cost of oil and other fuels escalated indecently, utilities in our State would go under if they were not permitted to recover these costs.

In 1974, one major New Jersey utility reported gross revenues of \$1.1 billion, of which \$401 million were derived from the fuel adjustment clause. It is plain to see that if this 36.4% of gross revenue were to suddenly disappear the eliminating of the FAC in 1974 would have precipitated a decrease in net income of \$413 million for this utility and plunged it into the red.

I do not serve the public interest if one flips the switch on the wall and the lights don't go on.

And so, it is obvious that impact of the FAC is monumental.

Let me be quite specific:- In January 1974 the average 500 KWH customer of this New Jersey utility paid a basic rate of \$16.49 and a FAC charge of \$3.52 for a total bill of \$20.01.

Later that same year, the New Jersey Public Utility Commission authorized a rate increase which boosted the basic rate for the same 500 KWH customer to \$17.26, but the FAC charge jumped to \$9.36, for a total bill of \$26.62.

In other words, I voted for an increase amounting to 4.7%, but the FAC jumped 166%.

In natural gas rates, I voted for an increase amounting to 17.4%. The RMA factor increased 264%.

Proper therapeutic relief will be achieved, not by treating the symptom -- in this instance, the automatic clauses, but rather the cause -- here the soaring uncontrolled costs of oil and other fuels.

Let me analyze for you further the impact on this same New Jersey utility if the recommended 85% pass thru were to be applied -- an action by the way, which was seriously considered over a year ago by the New Jersey Public Utility Commission.

In 1974, an 85% pass thru of FAC charges would have resulted in a decrease of \$80 million in revenues and a decrease of \$33 million in net income.

This utility has plans to construct \$3 billion of new generating capacity to meet peak load demands of 1980 and \$5 billion by 1985.

In 1975, the utility earned net income of \$175 million. If you need \$3 or \$5 billion and you have less than \$2 million, where do you get the money for your construction needs?

Obviously, one goes to the market. This utility's charter prohibits the issuance of new preferred stock unless earnings cover interest charges on all outstanding debt (including dividends on the new preferred stock) by at least 1.5 times.

Further, the company's mortgage indenture prohibit the issuance of new mortgage bonds unless earnings cover annual fixed charges on all long term debt by at least 2 times.

If the 85% pass thru were to have been applied to this utility's FAC for 1975, the company would have been unable to sell any bonds for 9 of the 12 months in the year.

Would alternate means of financing been available?

It is highly doubtful that any common or preferred stock issues, coupled with an inordinately large amount of short term debt could have replaced the long term debt financing currently underway.

As a consequence, credit ratings would be sure to plunge and New Jersey consumers would be forced with far larger costs

to restore the utilities health.

Having reached the conclusion that this recommendation might cause more problems than it solves, I offer for consideration the following program:-

1. Strict auditing by regulatory agencies of all charges filed under FAC to guarantee the pass through only if legitimage cost directly attributably only to the purchase of fuel.
2. Rigid mandates compelling utilities to make diligent search for the cheapest possible fuel.
3. Congressional controls over pricing and profit-maximizing policies of major oil and gas producers.
4. Conversion of concept of the Rural Electrification Administration for low-cost capital financing to major centers of Nations; possibly under an Urban Electrification Administration.

Statement of Gerald R. Browne,
Vice President
New England Power Company

I am Vice President and Director of Rates for New England Power Company. I appreciate this opportunity to comment on the automatic adjustment clause provisions of H.R. 12461 on behalf of New England Power Company and its affiliates The Narragansett Electric Company, Massachusetts Electric Company and Granite State Electric Company. I am also speaking on behalf of the Edison Electric Institute.

Introduction

The basic facts and history concerning the fuel adjustment clause, which is by far the most common type of automatic adjustment clause, are contained in the October 1975 report of the Subcommittee on Oversight and Investigations and I will summarize those facts only very briefly here.

Fuel adjustment clauses reflect increases or decreases in a cost that is both very large for electric utilities (amounting to greater than one half of New England Power Company's total expenses) and subject to extreme fluctuation. They originated in World War I when coal costs were rising sharply and, according to a recent survey prepared by National Economic Research Associates, have been adopted in 42 jurisdictions and by the Federal Power Commission. 1/

1/ The survey is printed at pages 45 through 82 of the report of the Subcommittee on Oversight and Investigations.

The fuel adjustment clause has come under fire in every period of escalating fuel costs but has survived because, in the words of Alfred Kahn, Chairman of the New York Public Service Commission, it is a "necessary evil, better than any alternative we can think of". 1/ Mr. Ralph H. Wickberg, President of the National Association of Regulatory Commissioners, testified before the Subcommittee on Oversight and Investigations that fuel costs increased 80 percent between January and December of 1974 and that without fuel adjustment clauses to facilitate the rapid recovery of fuel costs, "it is unlikely that the electric utility industry would have remained financially viable in 1974." 2/

In response to consumer protest, the state regulatory bodies and the Federal Power Commission have recently taken various actions to protect the consumer against excessive fuel clause charges, including audits, hearings, and uniform design requirements.

In the following comments on the automatic adjustment clause features of H.R. 12461, I attempt to point out some difficulties and questions concerning (1) the prohibition against inclusion of costs of affiliates, parents, or subsidiaries, (2) the provision for a partial pass-through of costs, and (3) the requirement for hearings and audits.

1/ Letter to Honorable John D. Dingell and Honorable Frank E. Moss dated January 2, 1975.

2/ See that Subcommittee's report at page 5.

These provisions as written would cause serious inequities and would unduly restrict and burden the regulatory agencies. I believe that the discretion to regulate automatic adjustment clauses should remain entirely with those agencies.

I

Section 203(b)(2)A provides that a "State regulatory authority may not approve any automatic adjustment clause which includes as actual covered expenses the expenses of goods or services purchased by an electric utility from any person who controls, is controlled by, or is under common control with, such utility." Section 305(b)(3) would make the same restriction apply to the Federal Power Commission's approval of automatic adjustment clauses in wholesale rate schedules.

Since "goods and services" would appear to include electricity, these provisions would prevent fuel adjustment or purchased power clauses from reflecting costs of electricity purchased in pooling arrangements and corporate structures that were set up to reduce costs to the consumer. I think it would be very unwise to eliminate automatic fuel cost recovery for certain utilities based entirely on the formal structures in which those utilities operate, particularly since there is comprehensive regulation over both the corporate forms and the rates under which the power is purchased. I also think it would be very inadvisable to exclude costs of fuel subsidiaries from the operation of fuel clauses since

that would certainly discourage the use of such subsidiaries although they are in the public interest of an assured fuel supply at the lowest obtainable cost.

The Bill would have a devastating effect on power pools that have developed over the years in order to improve reliability and minimize costs through such measures as joint planning of generation, sharing of reserves, and economic dispatch of generating units. These pools involve various types of "economy" sales of electricity that would appear to be excluded from the operation of automatic adjustment clauses under the Bill. This would certainly be true where the pool members include subsidiaries of holding companies established under the Public Utility Holding Company Act of 1935. 1/ Each of the holding companies now in existence was authorized by the Securities and Exchange Commission pursuant to section 2(a)(29)(A) of that Act as constituting an "integrated public utility system", consisting of facilities which, "whether owned by one or more companies, are physically interconnected or capable of physical interconnection and which under normal conditions may be economically operated as a single interconnected and coordinated system...." Disallowance of fuel clause recovery for transactions among companies that are affiliated for cost and reliability reasons would seem to be at odds with the Public Utility Holding Company

1/ Would members of a power pool be considered as under "common control" even though they are not affiliates? If so, the result would be a penalty attached to the formation or expansion of any power pool.

Act and also unnecessary since the rates and terms of pool transactions are on file with the Federal Power Commission and subject to its scrutiny.

The Bill as written would penalize a corporate structure where one affiliate is responsible for generation and transmission and sells power at wholesale rates subject to the jurisdiction of the Federal Power Commission to its sister companies which distribute the power at retail rates subject to the jurisdiction of state agencies. This is the type of corporate structure used in the New England Electric System ("NEES"), where New England Power Company is the generation and transmission affiliate and sells at wholesale to retail distribution affiliates. The Bill would also penalize generating subsidiaries established to permit generation to be constructed for various reasons, such as because the parent utility lacked the financial resources to build the generation itself.

One type of generating subsidiary is the nuclear power corporation established by a number of companies to spread the financial risks and costs of the venture. Several nuclear power corporations have been established in New England with the ownership of the common stock in the hands of sponsor electric companies. ^{1/} Also, many of the new atomic plants

^{1/} Yankee Atomic Electric Company, Vermont Yankee Nuclear Power Corporation, Connecticut Yankee Atomic Power Company, Maine Yankee Atomic Power Company, and Northeast Nuclear Energy Company.

around the country are proposed on a joint ownership basis. These nuclear companies benefit the consumer through their low fuel costs. The Bill would have the effect of preventing those costs from being passed automatically to the consumer.

In all of the cases I have described above, transactions are subject to rate regulation and the corporate arrangements themselves are subject to regulatory scrutiny. While the effect of the Bill is difficult to measure, it would certainly penalize arrangements that have been adopted to reduce costs to the consumer based on corporate structure without any apparent relationship to the danger of excessive fuel costs. I wonder if the Bill really contemplates the inapplicability of the fuel clause in the situations I have described since it is difficult to see how the public interest would be served.

The "goods and services" that the Bill has in mind would certainly include the cost of fuel purchased from a fuel subsidiary. The report of the Subcommittee on Oversight and Investigations of the House Committee on Interstate and Foreign Commerce issued in October of last year, although it proposed abolition of fuel clauses, said that the "advantages of a utility's ownership of a percentage, but not all, of its coal supply are such as to render it inadvisable for a commission to eliminate captive coal purchases from a fuel adjustment clause" (p. 22). The report listed those advantages as including the assurance of coal delivery, the ability to fill

temporary defaults and shortfalls by suppliers, savings in transportation costs, assurance of coal for a longer term, and lower and more stable coal prices. The report also noted that the utility's mining experience is "useful in dealing with non-affiliates" where questions arise as to price escalation or the possibility of performance when "force majeure" clauses are invoked by the supplier (p. 21).

It would not seem to be a particularly difficult regulatory problem to insure that a fuel subsidiary does not make excessive cost increases to its parent and indeed no measure would seem necessary if the subsidiary's prices are already subject to regulation. Various regulatory agencies have taken a hard look at fuel subsidiaries to insure that they do not charge excessive fuel costs to their parents. The Bill, however, could make fuel subsidiaries a thing of the past.

II

Section 203(b)(2)(A), says automatic adjustment clauses approved by a state regulatory agency may provide that "rates may be increased by not more than 85 percent of the amount by which (i) the amount of actual covered expenses exceeds (ii) 105 percent of the amount of base period covered expenses." Section 305(b)(3) contains the same provision for fuel clauses approved by the Federal Power Commission.

The concept of a partial pass-through of fuel costs has been raised over the years as a solution to the argument that fuel clauses lessen the incentive for utilities to bargain hard with their fuel suppliers. I do not intend to rehash

the debate on this subject except to say that from my experience I know that an electric utility has many incentives to keep its costs down and that the presence of a fuel clause does not weaken its incentive. I note that the President's Council on Wage and Price Stability, in a report on past and future coal-price trends issued three weeks ago, found that electric fuel clauses" had no measurable impact on the price of coal during 1974." 1/ I also note that the Federal Power Commission rejected a partial pass-through in its Order No. 517 issued November 13, 1974 revising its fuel clause regulations and affirmed its position in an order denying rehearing issued January 19, 1976:

Other comments suggest that utilities be permitted to recover only a portion of increased fuel costs in order to provide an incentive to bargain for lower cost fuel. It should be noted that to the extent that only a portion of changes in fuel costs are permitted to be reflected in rates, the purpose of the fuel clause (namely to pass on to customers the increases or decreases in the fuel costs actually incurred by the utility) is to that extent defeated. When fuel costs are rising, the utility is disadvantaged by not being able to collect the full amount of the reductions are not passed along, but are partly retained by the utility. In addition, the lag in collections for fuel expenses inherent in a typical fuel cost adjustment clause provides some incentive for companies to bargain for favorable prices during periods of rising fuel costs.

Aside from the questionable merit of the incentive theory, the partial pass-through is subject to a number of other

1/ A Study of Coal Prices, March 1975.

objections. There are many situations where incentive is immaterial. I do not see, for example, how greater incentive can help where an increase in fuel costs is directly attributable to governmental action; take for instance (1) an increase in rail transportation rates ordered by the Interstate Commerce Commission, (2) an increase in oil prices as a result of Federal Energy Administration action, as with respect to the pending rulemaking on allocating entitlements for old oil, or (3) the now-expired \$1 per barrel surcharge on imported residence oil. The utility has absolutely no control over such increases no matter how hard it bargains and should be allowed to recoup them in full under fuel clauses.

The inclusion of partial pass-through provisions in both wholesale and retail fuel clauses would penalize generating companies of the various types I have already described. For every dollar of increased fuel cost to the generating company, only part of that dollar would be passed on to the purchasing parents or affiliates, which would in turn pass through to the retail customer only part of the fuel clause payment to the generating company. 1/ Like the common control provision of the Bill, the partial pass-through provision would provide for an economic penalty based entirely on the type of corporate structure.

1/ This, of course, is apart from the prohibition in the Bill against any pass-through at all in these situations.

The partial pass-through feature of the Bill might penalize yet another arrangement which benefits the consumer. Are unit purchase agreements, which generally provide that the buyer purchases a share of the net output of a generating unit and pays that same share of the actual costs of that unit, to be considered as "automatic adjustment clauses"? If they are, and it would seem so under the definition of "automatic adjustment clauses" in the Bill, then would the seller be able to recover none, all, or part of its total costs? 1/ Cost of service contracts, which are also used for the nuclear corporations in New England, are intended to provide an objective determination of costs and to put the buyer in essentially the same position as if he directly owned a portion of the seller's unit. All such contracts must be filed with the Federal Power Commission and are subject to investigation under the Federal Power Act. I would hope that the Congress would not do anything to penalize the use of unit purchase agreements, which enable a utility to build a larger generating unit than would be needed to serve its own load by selling temporary excess capacity, or the nuclear generating company, which permits a number of utilities to share the risks and costs of nuclear generation, all for the consumer's ultimate benefit.

1/ an "automatic adjustment clause" is defined as "a provision of a rate schedule which permits an electric utility's rates to increase, in order to reflect a change in the actual amount of one or more types of operating expenses, without affording an opportunity for prior evidentiary hearing with respect to such increase". However, there are no "base period covered expenses" for a unit purchase agreement since such an agreement passes through all expenses rather than changes from costs in a test period.

The pass-through provision raises other questions of interpretation in addition to those I have already suggested. The provision, for example, refers to partial recovery of amounts over "base period covered expenses", i.e. the "amount established for purposes of setting rates...." Since these would be annual test year expenses, does the provision mean that there would be no fuel clause recovery until the cumulative increase in fuel expense mounted to more than 105 percent of the "base period covered expenses"? While this is obviously not what was intended, this example and the other problems I have raised illustrate the inequities and ambiguities resulting from an attempt to put into simple statutory language a provision that a regulatory body would treat in a more detailed regulation. 1/ I would expect that the fuel clause provisions of this Bill would, if enacted, create significant problems of interpretation for the regulatory agencies.

In my opinion, there should be no limit on the amount of recovery to be allowed through automatic adjustment clauses. I believe that full-recovery fuel clauses can be properly controlled by regulatory agencies which are subject to the same consumer pressures as the Congress and have, in fact, taken action in response to those pressures. The partial

1/ The definition of "automatic adjustment clause" above seems to include only those which pass on increases in cost, all the ones I am familiar with also reflect cost decreases.

pass-through idea, with its potential undesirable implications for various kinds of power supply arrangements, is more appropriately the subject of consideration by regulatory bodies than by the Congress.

III

Section 203(b)(4) states that automatic adjustment clauses in rates on file with state commissions "shall be reviewed by such regulatory authority in an evidentiary hearing not less often than annually." Section 305(f)(4) sets out the same requirements for the Federal Power Commission and, in addition, requires audits of fuel acquisition practices and reports by utilities on such practices. The Bill also authorizes the Federal Power Commission to direct the utility to cease any fuel acquisition practice that is "unreasonably discriminatory or anticompetitive in nature", which "does not lead to the use of fuel at the lowest possible cost", or which "inhibits or precludes the use or acquisition of the least expensive fuel by such utility."

Regulatory surveillance of fuel clauses is, I believe, in the best interests of the electric utility industry since it should tend to make the fuel clause more acceptable to the public. I do think, however, that the regulatory agencies should be entitled to a measure of flexibility and not required to conduct annual evidentiary hearings on every fuel clause on file, when such hearings may well be an empty show that only interferes with the regulatory process, or to accumu-

late mountains of paperwork at a cost that must ultimately be paid by the ratepayer. The Federal Power Commission already requires submission of fuel data, is conducting fuel clause audits, and is investigating allegations concerning fuel practices. Moreover, the NERA survey I referred to earlier indicates that in 33 of the 42 jurisdictions which permit the use of a fuel clause adjustments under the fuel clause are subject to Commission review, and hearings on changes in the fuel adjustment are required in 15 states. 1/

Conclusion

For the reasons discussed above, I do not believe it would be advisable to enact legislation providing for either a restriction on the application of fuel clauses to transactions between affiliated companies or a partial pass-through of fuel costs. These and other alternatives have been considered by regulatory agencies with the benefit of long experience with the fuel adjustment and the particular utilities which they regulate. Developing methods to insure that the consumer is not charged too much for fuel is a matter which should be left to those agencies.

1/ See report of the Subcommittee on Oversight and Investigations at page 68.

STATEMENT OF MR. GORDON W. HOYT,
UTILITIES DIRECTOR
CITY OF ANAHEIM, CALIFORNIA

Mr. Chairman, Members of the Subcommittee, my name is Gordon Hoyt, and I am Utilities Director of the City of Anaheim, California. Anaheim's municipal electric system, of which I am in charge, is one of the 2,000 municipally-owned electric utility systems in the nation. We purchase all our electricity in bulk from Southern California Edison Company at the 220,000 volt transmission level. We then distribute this power to our residential, commercial and industrial customers. We serve a population of nearly 200,000, through 71,000 meters. One of our larger customers is Disneyland. The peak demand of our system last summer was 325,600 Kw, equal to the amount of electricity required to illuminate simultaneously more than three and a quarter million 100 watt light bulbs. In 1975 we distributed over one and a half billion kilowatthours to our customers, for which we paid Edison \$35,287,886. Of that, more than a third, \$12,901,504, was paid under Edison's fuel adjustment clause.

Nearly one year ago, in May, 1975, I was privileged to have the opportunity to testify on the subject of Southern California Edison Company's fuel adjustment clause before the House of Representatives Subcommittee on Oversight and Investigations of the Committee on Interstate and Foreign Commerce. In that testimony, 1/ I urged that the Federal Power Commission should perform in-depth

1/ That testimony appears beginning at page 643 of the printed Hearings before the Subcommittee on Oversight and Investigations of the Committee on Interstate and Foreign Commerce, House of Representatives, Ninety-Fourth Congress, First Session, on Utility Fuel Adjustment Clauses, May 1, 2 and 5, 1975. Serial No. 94-19.

audits of utility fuel costs being collected through fuel adjustment clauses, and should issue regulations to enable wholesale customers, through certified public accountants, to conduct independent audits of fuel procurement practices, fuel costs, and other matters related to the fuel adjustment clause. I also recommended that fuel supply contracts prohibiting the economic use of alternate fuels should be declared inconsistent with the public interest standards of the Federal Power Act and costs of fuel purchased under such contracts should not be permitted to be reflected in any fuel clause.

During the past year, Anaheim has been involved before the FPC in proceedings directly challenging some of the specific practices of Southern California Edison Company in the administration of its fuel adjustment clause, such as inclusion of certain short-term interest expenses in the fuel clause as a fuel expense, and charging through its fuel clause the expenses of non-productive world-wide fuel exploration ventures undertaken by a wholly-owned subsidiary.

I note that H.R. 12461 incorporates in Section 305 many of the reforms the City of Anaheim has urged to the Congress and to the FPC.

It must be kept in mind that the historical intent, and indeed the only legitimate intent, of the fuel adjustment clause is to protect utilities in the event of unusually sharp swings in fuel expense between rate cases. Despite a popular belief generated in large part by the utilities, the fuel clause was never intended as a guarantee to utilities of immediate 100 percent recovery of all fuel-related costs. Fuel represents a large portion of a utility's operating expense budget, and as experience in recent years has demonstrated, it can be subject to very sharp and sudden price fluctuations, in contrast to other operating and maintenance expenses, which also fluctuate, but not as dramatically. The lesser fluctuations of other expenses, both up and down, are considered in the development of basic rates in

periodic rate cases before regulatory agencies. In fact, until recently many utilities, including Anaheim's supplier, considered fuel in the same category as other expenses and did not elect to include a fuel adjustment clause in their wholesale rate schedules.

When fuel adjustment clauses are used, as utilities are repeatedly urging today, for the purpose of guaranteeing immediate 100 percent recovery of all fuel-related expense, the utility becomes no more than a conduit for the flowthrough of fuel suppliers' charges to the consumers, with no incentive to bargain with the fuel supplier for lower prices. The consumer is certainly not in a position to bargain directly with the oil companies, so the result is that oil companies and coal suppliers can pretty much exact the price they want. The proposed legislation gives back to utilities the incentive to bargain for better fuel prices, while preserving the protection originally intended by fuel adjustment clauses.

The need for the provision requiring periodic review of fuel clauses proposed in H.R. 12461 has been demonstrated all too clearly to Anaheim. Shortly after the conclusion of the hearings held last May by the Subcommittee on Oversight and Investigations, and probably as the result of pressures from Congress as well as from wholesale customers including Anaheim, the FPC undertook special audits of the fuel accounts and fuel adjustment clauses of 14 utilities, including Southern California Edison Company. The findings of the FPC Staff auditors resulted in a Staff motion to reopen proceedings in Edison's pending rate increase case 2/ for hearings on the results of the Staff audit. The audit disclosed that Edison has been improperly putting in its fuel accounts several types of expenses which are not includible in those accounts, according to the Uniform System of

2/ FPC Docket No. E-8570.

Accounts for Public Utilities and Licensees, including, among others, the cost of short-term financing for which it used its fuel as collateral, and the world-wide fuel exploration costs (for unsuccessful as well as successful projects) of a wholly-owned subsidiary. But for this special audit, this padding of the fuel accounts with improper items to increase collections under the fuel adjustment clause might never have been uncovered, with resultant enormous amounts of fuel clause overcharges over the years. Fortunately, this audit was conducted during the pendency of the rate proceeding in which the fuel clause was first introduced by Edison and all amounts were being collected subject to refund. The proceeding has not yet been concluded, but Anaheim is hopeful of receiving appropriate refunds in the near future. Customers of other utilities may not be so fortunate, however. For this reason I would urge the Subcommittee to add to Section 305 a requirement for a periodic audit of the fuel accounts of all utilities which include fuel adjustment clauses in their wholesale rates. The wholesale customers should be permitted to participate in these audits if they desire, under appropriate FPC regulations.

The nature of the subsidiary fuel exploration expenses which Edison was found to have flowed through its fuel clause underscores the importance of the provision in Section 305 prohibiting automatic flow-through of expenses of affiliated companies. Expenses of more than 20 exploration ventures, some in places as remote from Southern California as Italy, Peru and Bolivia, were included in Edison's fuel clause charges, although the subsidiary has never provided any actual fuel for Edison's use and a number of the projects had already been determined to be unsuccessful. The proposed bill would protect against such abuses by allowing inclusion of expenses of goods and services purchased from an associated company only after an evidentiary hearing.

The provision in H.R. 12461 for regulation of fuel acquisition practices is particularly important. Southern California Edison Company apparently views this subject as very sensitive and confidential, in spite of the fact that it has an impact on close to half of its total expenses and cost Anaheim alone over \$12 million in 1975 in direct cost flow-through. When its contracts with fuel oil suppliers were made public by the California Public Utilities Commission, Edison's witness testified in hearings before that Commission 3/ that the detrimental effect of this disclosure was to cause Edison to receive thirty to forty unsolicited offers of fuel oil in the 90-day period following public disclosure. These offers were tendered by sellers characterized by Edison as "unqualified sources", and an "unqualified source" was defined by the witness as "An entity from which Edison has not purchased fuel oil in the past and therefore does not have knowledge of its business capability in the area of fuel oil supply." Based on this I can only conclude that there is evidently a "club" atmosphere between fuel suppliers and utilities which can only work to the detriment of the customer paying for the fuel through a fuel clause. Disclosure and some form of regulation of these practices is essential if charges under fuel clauses are ever to be brought under control.

The special audit of Southern California Edison Company ordered by the FPC shortly after the conclusion of the hearings by the Subcommittee on Oversight and Investigations last spring focused on fuel procurement practices as well as accounting, but in the report on that audit made public by the Commission and made the subject of hearings, no mention of the Staff's findings as to fuel procurement practices was made. Anaheim's attorneys obtained from the FPC Staff a copy of the questionnaire sent to Edison as a part of that audit. It contained four pages of questions on Edison's fuel procurement practices. While

3/ CPUC Case No. 9886, Rebuttal Testimony of Thomas R. Sparks, October, 1975.

the Staff was directed in the hearing to make its audit workpapers available to Anaheim, and did so with respect to its audit of the accounts, none of the information on fuel procurement practices was made available to Anaheim and the other wholesale customers. During cross-examination in that case the Staff auditor testified that the questions on fuel procurement were supposed to be kept separate from the remainder of the audit. He stated that "This was a separate survey that the Commission was making regarding fuel procurement procedures for the industry as a whole." He said that he completed the fuel procurement portion of the investigation and forwarded his report to the Washington office. He also indicated that similar fuel procurement investigations had been conducted on the other thirteen companies subjected to special fuel audit by the FPC.

I have great difficulty understanding why the FPC has failed to release to the public the results of this special industry study of fuel procurement practices. It seems to me that the public is entitled to have this information and to be assured that the regulatory agency charged with protecting the consumers is taking all possible steps to assure that fuel costs flowed through to the consumers are prudently incurred. The requirement in H.R. 12461 for public disclosure is fundamental to the protection of the public.

Because of the importance of on-going monitoring of fuel procurement by electric utilities, I believe that the FPC should expedite approval of its proposed revisions of the regulations applicable to fuel adjustment clauses. The amended regulations to which I refer were proposed in Docket No. RM 75-29 on June 17, 1975. Generally, these regulations would require much broader disclosure of the fuel procurement practices of electric utilities and would permit the FPC Staff and the wholesale customers to make meaningful inquiries into this serious matter. The proposed rulemaking contemplated that these disclosure requirements would be

effective prior to January 1, 1976 and my reading of the Commission's notice in the matter suggests to me that the FPC was commendably concerned about the absence of publicly available data on these important matters. Yet, the Commission has failed to expedite its disposition of the matter and an indeterminate period of time may expire prior to approval of this first step toward full disclosure, which is so essential for minimum consumer protection. It is my sincere hope that these hearings might constitute a catalyst for renewed vigor in the regulation of this all-important aspect of electric utility operations by the FPC and, more specifically for approval of this proposed rule.

Mr. Chairman, in conclusion, I appreciate the opportunity to present these views. It is my sincere hope that the testimony I have given will assist the Committee and that my suggestions regarding the need for the legislation proposed in H.R. 12461 have been favorably received by this Committee.

STATEMENT OF
JOHN THOMAS SCHELL
Attorney at Law
Washington, D.C.
BEFORE THE
SUBCOMMITTEE ON ENERGY AND POWER
OF THE
HOUSE INTERSTATE AND FOREIGN COMMERCE COMMITTEE
REGARDING
AUTOMATIC ADJUSTMENT CLAUSE PROVISIONS
OF THE
ELECTRIC UTILITY RATE
REFORM AND REGULATORY IMPROVEMENT ACT
H.R. 12461.
April 2, 1976

Mr. Chairman, members of the Committee, I appreciate the opportunity to comment on H.R. 12461, which would provide uniform minimum standards for automatic adjustment clauses in the rates of the nation's electric utilities. My qualifications are attached, but in summary, I am attorney with the firm of Peabody, Rivlin, Lambert & Meyers in Washington, D.C. For the past five years I have been engaged in numerous electric rate cases on behalf of consumer groups in Virginia, Maryland, Pennsylvania, and the District of Columbia. For the past two years I have worked with the Office of Public Counsel in the Northeast rail reorganization. With respect to automatic adjustment clauses, I have participated in generic hearings in two states and have testified formally before the Rhode Island Public Utility Commission.

My comments today will be directed at two areas: (1) the advisability of implementing such reform through national legislation; and (2) the threat such clauses present to the other goals of the bill.

ADVISABILITY OF NATIONAL REFORM

The concept of directing electric utility rate design through the power of the Federal Government gives me some concern. We have seen in the past year attempts by the electric power industry and the Administration to seek national legislation that would undo the few successes achieved by the consumers before state regulatory agencies. Furthermore, the complexities of issues such as rate design and accounting standards may best be left to the expertise of individual state regulatory agencies.

Notwithstanding those reservations, I support the concept of reform of automatic adjustment clauses by establishing national minimum standards. For as Section 102(4) of the bill implicitly recognizes, such reforms are virtually impossible on the state level because of the fear, often well founded, that the utilities of an individual jurisdiction will be placed at a disadvantage in raising capital. I have personally witnessed the enormous pressure brought to bear on state regulatory agencies by members of the financial community with respect to the implementation or retention of such clauses. They are often surprisingly candid in stating that the lack of such clauses would harm the state utilities' efforts to raise capital at the lowest possible cost. National reform would remove this barrier.

CONFLICTS WITH OTHER GOALS OF THE BILL

The provisions of Sections 203(b) and 305 offer what, in my experience, appear to be a rather moderate proposal for reform of such clauses; they simply place a percentage limitation on the amount of the increases. Since automatic adjustment clauses generally have no major effect on the total profitability of the utility, it is not necessary to flow through 100% of expense increases in each billing period. The utility will, eventually, if it makes such an application, receive rates that would compensate it for legitimate increasing expenses.

However, I respectfully urge the Committee before adopting this formal recognition of automatic adjustment clauses, to examine the effects of such clauses in any form on what appears to be a major goal of this bill--conservation of capital and energy resources. For even though this proposal may have the effect of limiting the increases and, perhaps indirectly increasing some operational efficiencies, it will create much stronger incentives for inefficiency. In addition, it will inculcate the principal of automatic adjustment clauses in both federal and state electric utility regulation. Those dangers to me far outweigh the modest benefits to be gained by the percentage limitation.

I would propose instead that this Committee question the need and advisability of such clauses, rather than merely tinkering with their structure or implementation. The wholesale use of automatic adjustment clauses, at this time, is contrary to the fundamentals of good regulatory practice and the goals of this bill for three reasons:

1. By increasing the volatility of electric rates, the clauses prevent proper economic price signals from reaching electric consumers, thereby frustrating the conservation goals of marginal cost pricing and load management.
2. They tend to excuse many managerial inefficiencies by decreasing any adverse impact on a utility's cash flow.

3. They tend to weaken incentives for the utility to operate as efficiently as possible in procurement matters.

I will discuss these three points in order.

1. Frustrates Goals of Rate Design Reform.

I know of no more important goal in this Nation in its conservation efforts than to achieve a more efficient use of its energy and capital resources through electric rate reform. The efforts towards promoting the use of marginal cost pricing and load management are vital to the continued health of this industry. However, the real pay-off in such reforms is not in altering short-term, voluntary consumption behavior of electric utility customers, but in influencing the purchase of efficient energy consuming equipment and appliances. Unless we can give the proper economic signals to the homeowner, the office building manager, the storeowner, and the manufacturer, to encourage the purchase of appliances that would promote off-peak consumption, discourage on-peak consumption, and lower total over-all consumption, we will continue to waste our energy and capital resources. The only way such modification of appliance purchases can come about is if the consumer, be he a homeowner or a manufacturer, knows what rate to expect when he makes the decision to purchase a given appliance. Continuity of rates, particularly in short periods, are necessary to our conservation efforts.

By allowing electric rates to go up and down, often monthly, automatic adjustment clauses can and do work to defeat the goals of such rate design reforms. The problem can be simply illustrated--in the month the customer conserves electricity, the fuel adjustment clause can double and his total bill would, to his surprise, increase, and in the month that he did not conserve, the fuel adjustment clause could drop drastically and his bill would, again to his surprise, decrease. It is easy to see how such conflicting price signals would frustrate the goals of rate reform efforts such as those proposed in other portions of this bill.

2. Protect Managerial Inefficiencies.

The second, and perhaps as serious, a problem is that when such clauses are operating at times of relatively stable external market prices for goods and services, the clauses reflect the results of managerial inefficiencies more than price increases in goods and services beyond the control of management. This point can be best illustrated by reference to the experience of the past three years with the most common automatic adjustment clause--the fuel adjustment clause. These clauses were adopted by regulatory commissions in over forty states, largely as a result of the severe pressures placed on oil prices during late 1973. Under those circumstances, such adjustment clauses were probably warranted since few regulatory commissions could

have, in any systematic way, coped with the rapid and enormous increases in the delivered price of oil to many electric utilities. In other words, the large increases in oil prices, which were generally followed three to six months later by coal prices, created an emergency situation for electric utility regulation.

But once the large increases in oil and coal prices had been passed through, generally by the summer of 1974, the clauses remained in place and continued to operate. Since most of the fuel adjustment clauses are "efficiency" clauses, that is they reflect efficiencies of generation, transmission, transformation and distribution, they began operating more as a function of those efficiencies than as a function of increased fuel prices. Although they have been promoted as protection against price increases, they actually reflect cost increases. An examination of their operation best illustrates this point.

Fuel adjustment clauses are generally based on a simple formula:

$$\text{Fuel Adjustment Factor} = \frac{\text{Dollars Paid for Fuel}}{\text{Kwh Sold}}$$

If the denominator, Kwh Sold, and the fuel prices remain constant, but more fuel is purchased, the numerator will increase and the Fuel Adjustment Factor will therefore increase. Dozens of factors can decrease system efficiency and increase the numerator of the fraction. For example, outages of efficient generating units, outages of efficient

transmission lines and improper dispatch of efficient generating units will all cause the fuel adjustment clause to raise the rates. These events are within the control of and are the responsibility of management. Managerial error, whether intentional or unintentional, will increase the fuel adjustment factor, raise bills, and protect management against cash shortages.

Of course, the clauses would also pass through managerial efficiencies by lowering rates. However, this may also be inadvisable because it eliminates a reward to management for operating efficiently. I submit that exempting management from the risks and rewards of their own decisions is counter-productive to any effort to improve the overall efficiency of the Nation's electric utilities.

3. Weaken Incentives to Purchase Goods and Services at Lowest Cost.

The third criticism of the clauses is that they will reduce management's incentives to bargain for the lowest cost items. This argument has been fully explored in a more detail than I can provide in the October, 1975 report by the Subcommittee on Oversight and Investigations, "Electric Utility Automatic Fuel Adjustment Clauses." Although this bill does provide in Sections 203(b)(4) and 305 for hearings as to purchasing practices, it is my experience that these hearings are often useless for inter-

venor groups. The simple reason is that in reality the burden is on the intervenor group to prove poor managerial practices.

For the above three reasons I would strongly urge this Committee to question the need for any automatic adjustment clause when there is no conclusive evidence that an electric utility is subject to volatile costs beyond the control of management. Therefore, I would recommend that the bill be altered to provide these two additional standards for all automatic adjustment clauses: (1) they be allowed only upon a showing of an emergency respect to operating cost increases, and (2) they only reflect cost increases resulting solely from price increases in goods and services beyond the control of management.

Thank you.

Respectfully submitted,

John T. Schell, Esq.
1150 Connecticut Ave. N.W.
12th Floor
Washington, D.C. 20036
(202)457-1030

JOHN THOMAS SCHELL

Mr. Schell is a partner in the law firm of Peabody, Rivlin, Lambert & Meyers in Washington, D.C., and he resides with his family in McLean, Virginia. He holds a law degree from the University of Virginia and is admitted to practice before the bars of Virginia and the District of Columbia.

He has been active in all phases of general practice with major emphasis on corporate matters, antitrust and utility regulation. Recently he has been most heavily engaged in public utility regulation before state and federal agencies, primarily on behalf of public interest groups. He has been involved in over a half-dozen telephone and electric rate cases on behalf of consumers before the Virginia State Corporation Commission. He has, or is now engaged in representing consumer groups before the Public Service Commission of the District of Columbia, the Public Service Commission of the State of Maryland and the Public Utilities Commission of the Commonwealth of Pennsylvania. For over a year he has served as a consultant to the Interstate Commerce Commission in its Office of Public Counsel. This office was established by the Regional Rail Reorganization Act of 1973 to protect the interests of shippers, communities and other users of rail service who would not otherwise be represented in the reorganization of the Penn Central Railroad and other bankrupt carriers in the Northeast United States. He has also represented various groups before the Federal Power Commission and the Nuclear Regulatory Commission.

Prior to joining Peabody, Rivlin, Lambert & Meyers in 1972, Mr. Schell practiced as counsel to the Lieutenant Governor of Virginia, Henry E. Howell, Jr., and represented Mr. Howell in various consumer matters. His legal responsibilities also involved assisting the Lieutenant Governor in legislative matters in the Virginia General Assembly. He has also served as a consultant on the Virginia criminal justice and law enforcement systems; served in the Adjutant General's Corps of the United States Army; and engaged in a general civil and criminal legal practice in Charlottesville, Virginia, and surrounding counties immediately after leaving law school. In 1969 and 1970, he was an initial founder and Executive Vice President of The Research Group, Inc., Charlottesville, Virginia.

Mr. Schell was born in Birmingham, Alabama in 1945 and was educated at Huntsville High School, Huntsville, Alabama (graduated in 1963); Auburn University, Auburn, Alabama (B.A. History, 1967); and the University of Virginia Law School, Charlottesville, Virginia (J.D., 1970).



COMMON COUNCIL
CITY OF FORT WAYNE
ONE EAST MAIN ST.
FORT WAYNE, INDIANA 46802

WINFIELD C. MOSES, JR.
COUNCILMAN - FIFTH DISTRICT
OFFICE
323 NORTHEAST DRIVE
FORT WAYNE, INDIANA 46823

April ²/_X, 1976

STATEMENT OF WINFIELD MOSES, JR.

My name is Winfield Moses, Jr., I have a Masters Degree in Finance, and I'm an Apartment Builder, a member and past President of the Fort Wayne City Council, and President of the Indiana Citizens Energy Coalition, which is a statewide organization of rate payers. I was also sued by an electric utility for \$5,000,000 for a letter to the editor describing their activities. After a year of legal battles we were granted summary judgement. I have been asked to testify before your committee in particular on the fuel adjustment clause and in a more general sense on Bills H. R. 12461 and H.R. 2633. Please accept my appreciation of the opportunity to do so.

The State of Indiana has encountered extreme difficulty with the use of the fuel adjustment clauses by its five investor owned utilities. The principal problem has been determined what is included in the cost increases requested by each utility.

While the FAC expenses were rising rapidly in Indiana, a study was undertaken by the Public Service Commission. One commissioner stated the study was initiated because, " Something I'm very concerned with is that the fuel cost adjustment is nothing more than just a fuel cost adjustment and that things are not being included in the price of fuel in an unnecessary or unreasonable manner, such as the transportation of fuel or the overhead cost, or the insurance cost, or the labor cost of people who process the fuel at the utility site. In otherwords, if its a fuel adjustment , I want it to be a fuel adjustment and not a fuel cost adjustment plus X."

At this time some FAC's had reached 42% of the base rate.

The City of Evansville, Indiana went to court with Southern Indiana Gas and Electric Company partly over fuel cost adjustments. The Indiana Court of Appeals ruled on December 31, 1975 that, while the manner in which increased fuel costs are passed on to consumers through informal fuel adjustment hearings may be legal, "the record in this proceeding contains no evidence that any formal or informal approval procedure has been employed by the commission... we are compelled to require the commission to submit a written statement of the procedures it has followed in approving petitioners fuel cost adjustment rate revisions. This is the only practical method available for determining whether the commission has discharged its statutory function."

In fact the FAC study by the PSC tended to show that all five investor owned utilities interpreted the law differently and therefore were not consistent in their accounting practices.

Likewise the claim that utilities do not profit from the FAL but merely recover costs may not be true. One Indiana Utility based its increasing FAL on account 501 of the uniform system of accounts including:

1. Unloading fuels from the shipping media
2. Handling to the point the fuel enters boiler
3. Items of supervising, purchasing and handling fuel
4. Fuel analysis
5. Moving of fuel
6. Operating mainenance and depreciation expenses
7. Ad valorem taxes
8. Lease on rental of transportation equipment used to transport fuel
9. Loss of fuel including freight
10. Excise taxes
11. Tools and lubricants

The result is a charge that appears to be considerably in excess of the increased cost per BTU.

Therefore, in Indiana the rate payers have considerable doubts concerning the clarity and credibility of the FAL.

H.R. 12461 would be of significant assistance to us, It would force not less than annual evidentiary hearings to insure maximum economics in operations and purchases which affect the rates. Indiana rate payers do not have this protection.

It would provide an Electric Utility Rate making Assistance Office. This would provide another source of information to State Regulatory Agencies and Citizens. Outside of the utilities themselves, these sources of information are sorely lacking.

This bill would allow an electric consumer to intervene in rate cases. We now, of course, have this right. But entirely at our own expense with little hope of ever recovering costs on an individual basis. This Bill allows a consumer to recover reasonable attorney's fees, expert witness fees, and other cost of participation, if the consumer prevails in a rate making proceeding. This will reduce superfluous interventions. Consumers will intervene only where they truly believe that the rate does not comply with specific requirements of this title. The laws of economics will tend to exclude solely malicious interventions.

Nearly as important is the requirement that "each electric utility should make available at cost of reproduction to parties in a proceeding before a state regulatory authority transcripts of such proceeding." In Indiana today it cost \$1.00 a page for copies of the transcript. A 10,000 page total transcript is not unusual. This places anyone who cannot charge the expense to the rate payers at a serious financial disadvantage.

The establishment of the Office of Public Council, as detailed in H.R. 12461, is long overdue in our country.

In the utility industry we do not have competition in the free enterprise, and freedom of choice sense of the word.

Regulation is meant to simulate competition in this industry. This office would help balance the rate payers needs with utility corporations desire for profits. In perspective, seldom has the rate payer been asked his opinion or listened to. And perhaps this is one of the reasons that electric prices have risen more in the past two years in the United States than for the entire prior 15 year period (1948-1973).

The financial assistance to the state regulatory authorities for improved staffing, consumer representation and rate structure innovation is an important assistance. This combined with studies or competition and long range coordinated planning will help the rate payer and the utilities.

A final word about including constructive work in progress in the rate base. Gentlemen, I'm an Apartment Builder. I know that I don't get any income until I finish the apartment buildings. But, if I started to recieve income when I started construction, it would remove most of the incentive to get the work completed. It might result in a lower interest rate because of a guaranteed income, but overall expenses would be much higher, particularly if I was guaranteed an actual cost rate base upon completion. To allow CWIP to become part of the rate base is not financially beneficial for either the rate payer or the utility. The rate payer will have higher rates; the utility will have greater total costs.

In conclusion, it is evident that what we today call the "energy crisis" may well be the most complex issue our nation has had to face in this century. But the problems are not insurmountable. The public interest can be guarded, and many of our citizens now look to you to help resolve these problems. H.R. 12461 is an excellant approach to the problems in my opinion.

Thank you for allowing me this opportunity to speak. I will of course be happy to answer any questions.

OPERATION AND MAINTENANCE EXPENSE ACCOUNTS

1. POWER PRODUCTION EXPENSES

A. STEAM POWER GENERATION
Operation

500 Operation supervision and engineering.

This account shall include the cost of labor and expenses incurred in the general supervision and direction of the operation of steam power generating stations. Direct supervision of specific activities, such as fuel handling, boiler-room operations, generator operations, etc., shall be charged to the appropriate account. (See operating expense in struction 1.)

501 Fuel.

A. This account shall include the cost of fuel used in the production of steam for the generation of electricity, including expenses in unloading fuel from the shipping media and handling thereof up to the point where the fuel enters the first boiler plant bunker, hopper, bucket, tank or holder of the boiler-house structure. Records shall be maintained to show the quantity, B.t.u. content and cost of each type of fuel used.

B. The cost of fuel shall be charged initially to account 151, Fuel Stock, and cleared to this account on the basis of the fuel used. Fuel handling expenses may be charged to this account as incurred or charged initially to account 152, Fuel Stock Expenses Undistributed. In the latter event, they shall be cleared to this account on the basis of the fuel used. Respective amounts of fuel stock and fuel stock expenses shall be readily available.

ITEMS

Labor:

1. Supervising purchasing and handling of fuel.
2. All routine fuel analyses.
3. Unloading from shipping facility and putting in storage.
4. Moving of fuel in storage and transferring fuel from one station to another.
5. Handling from storage or shipping facility to first bunker, hopper, bucket, tank or holder of boiler-house structure.
6. Operation of mechanical equipment, such as locomotives, trucks, cars, boats, barges, cranes, etc.

Materials and Expenses:

7. Cost of fuel including freight, switching, demurrage and other transportation charges.
8. Excise taxes, insurance, purchasing commissions and similar items.
9. Stores expenses to extent applicable to fuel.
10. Transportation and other expenses in moving fuel in storage.
11. Tools, lubricants and other supplies.
12. Operating supplies for mechanical equipment.
13. Residual disposal expenses less any proceeds from sale of residuals.

NOTE: Abnormal fuel handling expenses occasioned by emergency conditions shall be charged to expense as incurred.

502 Steam expenses.

This account shall include the cost of labor, materials used and expenses incurred in production of steam for electric generation. This includes all expenses of handling and preparing fuel beginning at the point where the fuel enters the first boiler plant bunker, hopper, tank or holder of the boiler-house structure.

ITEMS

Labor:

1. Supervising steam production.
2. Operating fuel conveying, storage, weighing and processing equipment within boiler plant.
3. Operating boiler and boiler auxiliary equipment.
4. Operating boiler feed water purification and treatment equipment.
5. Operating ash-collecting and disposal equipment located inside the plant.
6. Operating boiler plant electrical equipment.
7. Keeping boiler plant log and records and preparing reports on boiler plant operation.
8. Testing boiler water.
9. Testing, checking, and adjusting meters, gauges, and other instruments and equipment in boiler plant.
10. Cleaning boiler plant equipment when not incidental to maintenance work.
11. Repacking glands and replacing gauge glasses where the work involved is of a minor nature and is performed by regular operating crews. Where the work is of a major character, such as that performed on high-pressure boilers, the item should be considered as maintenance.

Materials and Expenses:

12. Chemicals and boiler inspection fees.
13. Lubricants.

STATEMENT OF

JACK L. WEISS

CONCERNING H.R. 12461, TITLE III, SECTION 305

FEDERAL POWER COMMISSION

Washington, D. C.

April 2, 1976

My name is Jack L. Weiss, and I am the Acting Chief, Division of Rates and Corporate Regulation, Bureau of Power, Federal Power Commission.

My statement will address itself to Title III, Section 305 of H.R. 12461 which deals with fuel adjustment clauses in wholesale rate schedules subject to the Commission's jurisdiction. 1/ This section would add a new §(f) to Sec. 205 of the Federal Power Act. Parts (1) and (2) thereof would prohibit any increase in rates without opportunity for an evidentiary hearing, except when made pursuant to an automatic adjustment clause having certain specified features. These features include: (1) approval of the adjustment clause by the Commission in an evidentiary hearing; and (2) a provision that rates may not be increased by more than 85% of the excess of actual expenses over 105% of base period expenses. Further, the Commission may not approve any automatic adjustment clause which includes the expenses for purchases from an affiliate.

This section of the bill departs from the principles enunciated by the Commission in its Opinion No. 533 2/ and in its Order No. 517 3/ which amended Section 35.14 of its Regulations. In Opinion No. 633, the Commission adopted the proposition that automatic fuel adjustment clauses are both lawful under the Federal Power Act and sound as a matter of regulatory policy. At present, rate changes may be made pursuant to an automatic fuel adjustment clause without prior Commission approval, after that clause has been authorized by the Commission after notice and opportunity for hearing. Any change in the fuel clause or the formula upon which the rate adjustment is based

1/ A similar section is contained in Title II, Section 203(a) of the bill relating to fuel adjustment clauses subject to the jurisdiction of State regulatory authorities.

2/ Docket No. E-7541, New England Power Company, issued October 30, 1972

3/ Order No. 517 was issued on November 13, 1974 in Docket No. R-479.

requires prior Commission approval. The Commission's Regulations, as amended by Order No. 517 sets forth in detail the principles to be incorporated in fuel adjustment clauses filed by public utilities with the Commission and specifies the format for a fuel adjustment clause that the Commission would approve. All public utilities were required to put their clauses in such format by January 1, 1976.

In its consideration of various principles proposed in the rulemaking proceeding in Docket No. R-479, which led to the adoption of Order No. 517, the Commission considered each of the features contained in §(f)(2) of the bill and in general did not consider such features desirable. The first feature, relating to the 85% limitation, was rejected by the Commission in Order No. 517 because "...to the extent that only a portion of changes in fuel costs are permitted to be reflected in rates, the purpose of the fuel clause (namely to pass on to customers the increases or decreases in fuel costs actually incurred by the utility) is to that extent defeated. When fuel costs are rising, the utility is disadvantaged by not being able to collect the full amount of the increase; when fuel costs are falling, the customers are disadvantaged because the full amount of the reductions are not passed along, but are partly retained by the utility." It is noted that the bill limits the recovery of any increase in fuel costs to only 85% of the amount that exceeds 105% of the base period expenses, but presumably would require the public utilities on pass on 100% of any decrease in fuel costs. If customers are to be benefitted when costs are going up by permitting only partial recovery of excess fuel costs, equity would seem to require that there should be an offsetting benefit to the utility when fuel costs go down by limiting the amount to be passed.

on to the customers. The 105% provision, in effect, establishes a neutral zone above the base period expense. While Order No. 517 does not necessarily preclude a provision that would establish a neutral zone, the Commission's past practice has been to permit a neutral zone equal in amount above and below base period expenses. Further, in connection with the provision for partial recovery of excess fuel costs, by Order issued January 19, 1976 in Docket No. E-9393, the Commission denied the motion of various municipal electric systems to amend Section 35.14 of the Regulations under the Federal Power Act so as to permit a public utility to recover only 75% of any increase in monthly fuel costs from its wholesale customers but require the public utility to pass on 100% of any decrease in monthly fuel costs. The Commission's Order states that "In view of our position with respect to full recovery of fuel adjustment clauses and the direct consideration given to partial recovery fuel adjustment clauses in Docket No. R-479, a reopening of the question, with no apparent change in conditions to warrant such action would not appear appropriate."

It has not been demonstrated that the ability of public utilities to adjust rates for full recovery of fuel cost changes has diminished their incentive to bargain for low cost fuel. In Order No. 517, the Commission stated that "... the lag in collections for fuel expenses inherent in a typical fuel cost adjustment clause provides some incentive for companies to bargain for favorable prices during periods of rising fuel costs." The various special fuel clause audits that have been completed by the Commission's Office of Accounting and Finance have not disclosed any unwillingness to bargain for favorable fuel prices on the part of the six public utilities whose audits have been completed to date, nor did such audits

indicate that fuel costs were not prudently incurred. Consistent with the results of these audits, the President's Council on Wage and Price Stability, in a report issued March 16, 1976, entitled "A Study of Coal Prices," showing past and future coal price trends, found that electric utility fuel clauses had no measurable effect upon the price of coal during the time when coal prices paid by many utilities substantially increased in 1974. The report states "...there is little in the consumption-inventory patterns for electric utilities which would suggest that they behaved differently in the short run from nonutility firms which had no automatic fuel adjustment clauses with which to pass on coal price increases."

Whereas the bill would prohibit the Commission from approving any automatic adjustment clause that includes expenses for purchases from an affiliate, the Commission's Order No. 517 would permit such expenses to be included in the fuel adjustment clause provided the price is subject to the jurisdiction of a regulatory body. The Securities and Exchange Commission has some authority to regulate such prices where transactions between affiliates are involved. Various state commissions have exercised jurisdiction in this area.

Part (4) of Section 305 of the bill addresses itself to "automatic adjustment clauses" and "fuel adjustment clauses" as though they were different, whereas the latter is merely one form of the former. Insofar as electric utilities are concerned, by far the most common type of automatic adjustment clause is the fuel cost adjustment clause. ^{4/} In any

^{4/} While this type of clause has been fairly common for many years in industrial and wholesale electric rate schedules, it is only recently that it has become widespread in residential rate schedules. From 1970 to 1974, the number of privately owned utilities serving communities with populations of 25,000 or more with fuel clauses in their residential rates increased from 35% to 72%.

event, this part of the section provides that if a rate schedule of a public utility contains an automatic adjustment clause, such clause shall be reviewed annually by the Commission in an evidentiary hearing. The requirement for an annual review of rate schedules containing automatic adjustment clauses would place an enormous burden on the Commission's present limited staff resources since there are about 150 public utilities having fuel clauses subject to the Commission's jurisdiction. The further requirement to conduct such review in the context of an evidentiary hearing would only compound that administrative problem and could possibly bring to a halt other evidentiary proceedings. It is not evident that such proceedings would produce any substantive results in light of the audits completed. 5/

Part (4) further provides that public utilities shall provide reports on fuel acquisition practices to the Commission for review and audit and that such reports shall be available to the public. In itself this requirement does not pose a major problem if it is the intent of the bill that such reports address acquisition practices in general terms. Presumably, such reports could deal with such matters as the public utility's objectives in acquiring and maintaining a stockpile of coal on hand, its long-range planning in determining its coal requirements, the education and experience standards required for fuel procurement personnel, and procurement procedures in effect. If, however, public utilities would be required to divulge detailed information as to their fuel procurement contracts and pricing practices, public disclosure thereof could have an adverse impact on their ability to negotiate for the lowest possible fuel

5/ The Commission's periodic audits can be the vehicle to uncover misapplications of fuel adjustment clauses.

costs. In a Notice of Proposed Rulemaking in Docket No. RM75-29, issued June 17, 1975, 6/ the Commission proposed to amend its Regulations to require, among other things, the submittal by public utilities of detailed information relative to fuel procurement practices. Certain of the responses received by the Commission from public utilities and fuel suppliers opposed the adoption of such requirement. It was contended that the dissemination of such information would virtually eliminate competitive bidding on the open market in the future and inhibit negotiated prices, and could cause the price of fuel to increase and be fixed at the highest possible level with a resultant increase in the cost of fuel for all customers. The special audits conducted to date by the Commission's staff indicates that the public utilities' acquisition practices were adequate to insure that fuel costs were prudently incurred.

There is one further provision of Section 305 that warrants comment. It is provided in Part (4) that the Commission shall, after affording an opportunity for evidentiary hearing, direct a public utility to cease any fuel acquisition practice "... which does not lead to the use of fuel at the lowest possible cost, or which in any way inhibits or precludes the use or acquisition of the least expensive fuel by such utility." I suggest that it would be inappropriate to mandate the "use or acquisition" of the least expensive fuel in all instances because other considerations of the public utility's operations may dictate the use of other fuels such as generating efficiency, transmission losses and capital cost/fuel cost tradeoffs. For example, the least expensive fuel for a given public utility may only be usable in its least efficient generating facility and,

6/ This matter is still pending before the Commission.

accordingly, it would be inappropriate to require the acquisition and use of fuel for that installation to the detriment of overall efficient system operation. Also, the economic dispatch of units resulting in the lowest delivered cost might dictate the use of a high fuel cost/low loss plant over a lower fuel cost/high transmission loss plant. Likewise, the least expensive fuel may not meet local environmental standards. The required use of such fuel may necessitate the installation of expensive anti-pollution controls, the cost of which may more than offset the potential cost benefits of the fuel. The determination of what type of fuel to be utilized in a plant takes into consideration capital costs as well as fuel costs and the utilization of a particular plant is generally determined on the basis of its overall costs.

APRIL 5, 1976

STATEMENTS OF: PANEL ON WHEELING AND JOINT USE OF GENERATION AND TRANSMISSION FACILITIES, HON. CHRISTOPHER J. DODD, PANEL ON WHOLESALE RATE REGULATION, AND PANEL ON CONSUMER REPRESENTATION BEFORE THE FPC AND STATE AGENCIES

PANEL ON WHEELING AND JOINT USE OF GENERATION AND
TRANSMISSION FACILITIES

STATEMENTS OF: PAULANN M. CAPLOVITZ, RICHARD F. WALKER,
CHARLES F. WHEATLEY, JR., HUGH A. WELLS, AND CHARLES W.
LINES

Plan now to attend
FIFTH WORLD CONFERENCE OF RETAILERS STOCKHOLM
and UNION OF USSR MAY 6 - 20 1976
Ask us about it!

National Retail Merchants Association



100 West 31st Street
New York, N.Y. 10001
212-244-8780

STATEMENT OF PAULANN M. CAPLOVITZ
ON BEHALF OF
THE NATIONAL RETAIL MERCHANTS ASSOCIATION
BEFORE THE
SUBCOMMITTEE ON ENERGY AND POWER
OF THE HOUSE COMMERCE COMMITTEE
ON
HR 12461
THE ELECTRIC UTILITY RATE REFORM
AND REGULATORY IMPROVEMENT ACT

April 5, 1976

EXECUTIVE OFFICERS

Chairman of the Board
THOMAS M. MACIOCE
President and Chief Executive Officer
Alfred Stores Corporation
New York, New York

First Vice Chairman of the Board
MERVIN G. MORRIS
Chairman of the Board
Merrym's
Hayward, California

Second Vice Chairman of the Board
DONALD W. SEIBERT
Chairman and Chief Executive Officer
J. C. Penney Company, Inc.
New York, New York

President
JAMES R. WILLIAMS
NRMA
100 West 31st Street
New York, New York 10001

Washington, D.C. Office: 1000 Connecticut Avenue, N.W. 20038

Plan now to attend . . .
 FIFTH WORLD CONFERENCE of RETAILERS, STOCKHOLM
 and TOUR OF USSR . . . MAY 6 - 20, 1976
 Ask us about it!

National Retail Merchants Association



100 West 31st Street
 New York, N.Y. 10001
 212/244-8760

Introduction

Chairperson Dingell and Members of this Committee:

My name is Paulann M. Caplovitz. I am an attorney, associated with the law firm of Weil, Gotshal & Manges, which is counsel to the National Retail Merchants Association ("NRMA"). My principal responsibilities have been in the area of electric rates and I have worked with NRMA's Energy Committee on a variety of rate issues - my initial responsibility being the writing of "Rising Electrical Rates: A Blueprint for Action." I have also assisted the New York State Council of Retail Merchants in the generic investigation of electric rate structures and the marginal cost-based time of day rate proposal for LILCO, before the New York Public Service Commission. While by no means an expert on the electric power industry, I have accumulated a fund of relevant knowledge in the course of my activities which led to my becoming a member of a Task Force participating in the national study of electric rate reforms by Edison Electric Institute and Electric Power Research Institute. This background provides the basis for my testimony on behalf of NRMA on HR 12461, the Electric Utility Rate Reform and Regulatory Improvement Act.

NRMA is a non-profit organization of more than 3,000 corporate members. Approximately 75% of those members

EXECUTIVE OFFICERS

Chairman of the Board
 THOMAS M. MADDOCKE
 President and Chief Executive Officer
 Allied Stores Corporation
 New York, New York

First Vice Chairman of the Board
 MERVIN G. MORRIS
 Chairman of the Board
 Mervyn's
 Hayward, California

Second Vice Chairman of the Board
 DONALD V. SHEPHERD
 Chairman and Chief Executive Officer
 J. C. Penney Company, Inc.
 New York, New York

President
 JAMES R. WILLIAMS
 NRMA
 100 West 31st Street
 New York, New York 10001

are small businesses each with sales under \$1 million annually. NRMA's members operate more than 30,000 retail outlets throughout the United States which account for approximately \$80 billion in sales annually, range in size from small specialty shops to large retail department chains, and employ more than 2 million people.

HR 12461 represents an important preliminary effort to consider, in a comprehensive fashion, the now chronic problem of rising electric rates and the need to conserve our finite resources. NRMA's testimony today relates to Title III of this proposed legislation, focusing on the timely and promising interest of Title III in the benefits which increased competition in the regulated power industry may provide. In particular, NRMA believes that a study of the means to promote competition, as contemplated by §310 of HR 12461, should immediately be instituted by Congress. Such study could result in the formulation of a viable "wheeling option," permitting distant sellers of cheap bulk power to deal, in a commercially practicable way, with other public utilities whose costs of generation make it uneconomic to produce their own electricity within the franchise they serve. Indeed, "wheeling" may even permit a large user to contract for electricity to be supplied by a utility other than the local utility. §302(a), §302(b) and §303 may create a basis for this option, and NRMA urges

serious consideration of these sections as a foundation for action.

These recommendations derive from NRMA's conviction that increased competition among producers of electric power, made possible in principle by the revolution in transmission technology, may well lead to lower prices of electricity for all consumers - both as a result of competition itself as well as a result of the more efficient utilization of available resources. Indeed, encouraging efficient utilization and conservation may well be the most promising approach to assuring low-cost electricity in view of the extraordinary cost of generating capacity and fossil fuels consumed in generation. NRMA's interest in low-cost, efficiently produced electricity arises from the role its members play in the American economy. As will be made clear, this interest also stems from specific characteristics of retail establishments which limit retailers' ability to effect further large energy reductions above the substantial savings already achieved.

The testimony NRMA offers here today reflects the strong emphasis NRMA has given to national energy problems that flashed into view in November, 1973. Since that turning point in this country's energy history, NRMA has developed major initiatives to promote and focus its members' awareness on the rising cost and decreasing supplies of energy of all

types, including electric power. A specially created NRMA Energy Committee has formulated and supervised the following substantive programs:

- Preparation and mass distribution of NRMA Energy Conservation Checklist, providing concrete suggestions for large and small businesses to save energy;
- Publication and national distribution of Raising Electrical Rates: A Blueprint for Action, an informative pamphlet on the causes of electric rate escalation and ways to take action to assure fair and reasonable rates;
- Preparation of objective and constructive position papers on marginal cost pricing, peak load pricing and "lifeline" rates by Charles W. King, NRMA's economic consultant;
- Continuing survey of conservation programs and results by retail establishments and close cooperation with the Federal Energy Administration and Department of Commerce;
- Guidance of retail business organizations in state proceedings involving reform of electric rates to assure that developments will lead to fair and reasonable electric rates for all consumers.

In recognition of the sustained and affirmative programs developed by NRMA's Energy Committee and professional staff, the Federal Energy Administration and the Secretary of Commerce have awarded NRMA their principal honors for conservation efforts. NRMA members are proud of their contribution to date in the on-going national project to use our energy

resources more efficiently. This testimony is presented in the spirit of commitment supporting these endeavors.

I. THE RETAIL COMMUNITY HAS A VITAL INTEREST IN ASSURING EFFECTIVE ENERGY CONSERVATION AND FAIR ACCESS OF ALL CONSUMERS AND COMMUNITIES TO COST-BASED ELECTRIC POWER

The escalation of electric rates over the past four years, more than doubling the national electric bill, has put consumers, including business, to hard choices. Electricity is a vital commodity. Its reliable and economical provision is essential to individuals and to the normal functioning of the economy. Indeed, while this country's historic annual 7-1/2% growth in electric sales may never resume, electrification of the economy is likely to proceed apace. Federal energy policy, such as it is, points in this direction.*

Despite the ebbing of inflation and easing of oil shortages, these high electric rates have not subsided to pre-embargo levels. In fact, utilities continue to press for additional rate increases. NRMA cannot believe this future is acceptable or necessary. The goal of providing cheaper, cost-based electric power, on a just and non-discriminatory basis throughout the country, while at the

* Testimony of Dr. Douglas C. Bauer, Associate Assistant Administrator for Utility Programs, Federal Energy Administration, Proceeding on Rate Design of Electric Corporations before the New York Public Service Commission in PSC No. 26806, August 18, 1975.

same time promoting energy conservation, is a critical one -- as is recognised in the Findings and the Purposes of HR 12461 declared in §101 and §102, respectively.

A basic fact of this nation's economic life gives the retail industry a unique voice with which to speak on behalf of consumers in the interest of low cost, efficiently used electricity for all. The viability of NRMA's member stores literally depends upon the purchasing power of the consumers they serve. Money spent to light homes and refrigerate or cook food is not available to purchase goods and services offered the public by the retail industry. Of course, the threshold constraint on purchasing power is the level of jobs and income in a community. To hold and attract business enterprise is, therefore, a critical community goal everywhere. It requires for success, however, that the most economical cost-based electric power within reach of a community be on hand there. Retail establishments thus have an equally vital interest that the towns and cities they serve have a fair share of this country's electric power resources.

There is a fundamental constraint on the retail industry that forces NRMA to concentrate its search for more efficient electric power on measures that may enlarge the market of suppliers of electricity. The interface the retail industry has with the daily lives of American con-

sumers imposes severe limits on all its operating options, including its discretionary use of electricity. The facilities for which retail stores use electricity - lights, air conditioners, space heating equipment, escalators, elevators, and display centers - are installed for essential customer and employee needs - safety, health, and comfort. Of course, they are also necessary to enhance the merchantability of goods offered for sale. In short, the requirements of NRMA member companies for electricity are dictated by the needs and lifestyles of their customers and employees. Consequently, there are irreducible minimum levels of electric use below which retail establishments cannot safely, practicably, or legally operate.

These built-in restrictions on retail stores' discretion to use electricity bite hard when electric rates go up substantially and fast, as they have done since 1972. Despite elaborate and sustained efforts by retailers leading to substantial reductions in consumption the retailers' overall energy bill has gone up dramatically as a result of recently doubled rates. Further, these efforts belie the assertion, too often made, that retailers can afford to ignore their electric bills since they can "pass on" the higher cost of electricity to their shoppers in the form of higher prices for retail goods.

The proof is in the record. The national Sav-Energy awards conferred on NRMA attest the truly remarkable perfor-

mance turned in by this industry in the last three years. Notwithstanding the limits on retail store control over its electric demand, management has achieved hefty consumption reductions that have lasted. NRMA has collected conservation data from member establishments through periodic surveys and has reported the results to the Federal Energy Administration on a regular basis. These figures are among the best accomplishments in American industry. During 1973 and 1974, retail units averaged a national reduction of 15-18%. Some establishments actually reported decreases as much as 31%. Heating oil consumption was reduced by 14-25% during this same period. Regrettably, NRMA members cannot simply rely on their own large efforts to soften the increases in their bills by cutting back their electric use. The basic constraint on their discretionary use of electricity, coupled with the very success of their programs to conserve energy means that retailers now have virtually no further ability to cut consumption.

Paradoxically, consumption efforts have led to even higher electric bills. Higher rates have been imposed to make up for the lost sales energy conservation has cost the individual utility. On an individual company basis, the utility has had to seek off-setting rate increases because its costs have not gone down as its sales declined. The principal reason for this perverse effect is the worsening

of the load factor of the individual utility - a problem addressed by Title II. NRMA has already commented on Title II in testimony prepared by its Economic Consultant, Charles W. King, and further comment will not be made herein except to state that load management programs on an individual company basis have inherent limitations - one utility and one service territory having one group of customers - which may be diminished if the problem were treated more broadly, as contemplated by Title III.

II. INCREASED COMPETITION AMONG SUPPLIERS OF ELECTRIC POWER AND A "WHEELING OPTION" MAY PROMOTE MORE EFFICIENT, REASONABLE UTILIZATION AND HENCE MORE ECONOMICAL COST-BASED ELECTRIC POWER

The circumstances of the electric power industry, noted more fully below, may well afford a practical role today for competition among electric utilities at the supply level. HR 12461 properly recognizes the potential of this role in its statement of Findings at §101(10) and in its declaration of Purposes at §102(9). §310(a) appropriately mandates a two year study to determine whether in fact increased competition in this industry is truly in the public interest and directs that a report then be made to Congress recommending legislative proposals to effectuate increased competition. The scope of the subjects outlined for investigation in §310(a)(1)-(8) is broad and complete, contemplating extensive re-structuring of the electric power

industry if the results of the study indicate such action is warranted. It is premature to endorse any of the reforms that §310(a) identifies for investigation. Nevertheless, NRMA believes that §310 would create an indispensable foundation on which to decide whether and how to foster competition in this vital sector of the national economy.

As interim measures, certain sections of Title III of HR 12461 explicitly provide a minimum statutory basis for immediate fostering of competitive currents in the electric power market. §301(a) amends §202(a) of the Federal Power Act ("FPA") (16 U.S.C. 824a(a)) conferring implicit authority on the Federal Power Commission ("FPC")

"to assure maximum competitive opportunities for the purchase and sale of electric energy at wholesale at the lowest possible price"

This authority is given an explicit practical tool in §301(b), which amends §202(b) of the FPA (16 U.S.C. 824a(b)) to permit the FPC to order a public utility to

"transmit energy for, provide transmission services or wheeling for, exchange energy with, or pool or coordinate with such persons".

Such orders may be sought on motion of any person engaged in the transmission or sale of electric energy as well as by State Commissions. Presently, the statute only authorizes the FPC to order a public utility to

"sell energy to or exchange energy with such persons"

The FPC has interpreted this language not to authorize mandatory "wheeling".* Mandatory "wheeling", which §301(b) would permit under prescribed circumstances, would require the owner of a transmission line or system to serve as a "common carrier" on request, for an amount reflecting the efficient costs of transmission,, with respect to other utilities interconnected with it which are seeking to purchase and sell electric power from each other. §303 of HR 12461 amends §202(c) of the FPA granting the FPC plenary power to require, without notice or hearing,

"pooling, coordination, wheeling or other transmission service"

This power is conditioned on emergency conditions, including continuance of war, which the FPC has not expansively construed in recent decisions. §307 creates a new §205(h) for the FPA, authorizing the FPC to police unfair methods of competition or rates resulting in such competition. §311 preserves the operation of the antitrust laws with respect to public utilities and all existing authority the FPC has to regulate unfair methods of competition.

NRMA views the statutory proposals relating to competition as an infrastructure to support interim regula-

* City of Paris, Kentucky v. Kentucky Utilities Company, 70 P.U.R. 34 475 (1967).

tory efforts to foster competition pending the full dress review that Congress will undertake upon completion of the study instituted by §310. Clearly, these statutory amendments may not be the final word Congress may choose to pen but they appear to be a realistic step at this time and NRMA recommends serious consideration of their merit as an interim basis for action.

Increased competition, made feasible by provision to bulk power suppliers of a "wheeling option" holds real promise for efficient load management of this country's electric resources taken as a whole. For a variety of reasons, costs of production vary widely across the nation and even between contiguous franchise jurisdictions. As developed below, the extensive interconnection of most public utilities in theory permits a lower cost producer to offer available power to a higher cost producer, off-setting these cost differentials. The resulting benefits would be effective conservation of costly and limited energy resources and lower unit costs of electricity for consumers whose utilities are now constrained to operate uneconomically with limited access to electricity more efficiently produced by other suppliers. Such improved utilization would also lead to more efficient installation of new, now hugely expensive baseload capacity as well as limit reliance on uneconomic fossil-fuel fired peaking units. The same twin benefits would accrue from avoidance or deferral of these installations.

The evolution of the electric power industry, profoundly shaped by its developing technology, leads directly to NRMA's suggestion that competition presents a realistic and promising opportunity to effect this national load management. Dramatic concentration of utilities has occurred over the last three decades, bringing extensive coordination of production and transmission of electric power with it. Prime movers in this industry today are huge multiple-unit holding companies, large single-unit vertically integrated utilities, and voluntary, more or less formal "pools", comprising separately-owned operating companies. These affiliated utilities* now deploy an immense baseload capacity, enjoying great economies of scale, which they can coordinate on an hourly basis to assure the most economic utilization of such capacity. Their arrangements also permit more economic system reliability and more economic installation of new capacity than might otherwise take place, at least as judged from their point of view.

The backbone of this coordination by affiliated companies is transmission technology, the system of interconnections, of varying size and configuration, that technically makes one big producing entity of these utilities. Inter-

* Hereinafter the term "affiliated companies" refers to all three forms of organization because they constitute the system of coordination either through ownership or agreements.

connected generators on these systems speed up and slow down automatically to maintain a constant 60 hertz cycle frequency in response to fluctuations of demand for power at any point on the distribution system. Ownership of the electricity produced by interconnected companies is imputed by metering at the points of interconnection. Accounts are cleared by summing the net flows of power. The terms of these transactions are prescribed by formal agreements and contracts. The ability to make these arrangements, however, implies the concomitant power to exclude other producers or bulk power companies. This exclusion is systematically practiced today and its redress through mechanisms to promote competition would appear to be essential if the promise for efficient and economical production of electric power, which interconnection affords, on a scale which is broader than simply affiliated companies.

In principle, the market for a public utility seeking to purchase power is structured by the utilities with which it is interconnected. As a commercial matter, the limits of the market depend upon the costs of transmission. These vary with distance and the voltage size of the line. Transmission technology is a decreasing cost investment: the capacity of a transmission line increases with the square of its voltage. The newest generation of lines - 765kV - permits economic transmission over hundreds

of miles. Accordingly, vastly larger areas of the country comprise potential markets for purchased power than was possible only 15 years ago. Shopping for power is technically possible on a broad scale. This has special importance for major load centers which today have up to 12 utilities of 100 MW capacity within 100 miles and up to 19 such producers within 200 miles.*

As a practical matter this technical market is often irrelevant. This is because, as noted above, coordinating companies today widely practice policies that exclude many unaffiliated companies from this market. They accomplish this exclusion largely by offering terms for wheeling power or "transmission services" which make sales between interconnected but unaffiliated companies uneconomic.

The actual market for purchased power thus appears actually to be defined by the owner of the transmission lines connecting these utilities. Where there is more than one such line and more than one owner, it is the owner of the largest contiguous transmission line, e.g., 765 kV. who makes the market. I am told that this order of precedence arises naturally from the laws of physics which ordain that electrons, which move randomly and at the speed of light, tend to follow the path of least resistance., i.e., the

* See Leonard W. Weiss, "Antitrust in the Electric Power Industry", Chapter V., p. 137, Promoting Competition in Regulated Markets (Brookings Institution, Washington, 1975).

highest volt transmitter. The owner of the largest transmission line is thus the presumptive gatekeeper between potential buyers and sellers of bulk power.

The power to make the market rests on the bottleneck control the intermediate utility or trunk line owner enjoys. Unless the seller has reached an agreement with the owner of the trunk transmission system, it cannot do business with the buyer unilaterally because it cannot afford to accelerate its generator to make the "sale". Once generated, the power is instantly transmitted to every and any point of the interconnected system and the transmission owner can claim the transfer as its purchase and resale. The would-be "seller" thus has no assurance he will be paid for the costs of this acceleration either at his price or at any price. Pre-arrangement or coordination is thus essential for participation on interconnected systems.

The force of this power is seen from the negligible amount of sales between unaffiliated utilities through transmission grids* even though substantial interconnection exists and widely varying differentials in the regional cost of producing electricity obtain. The force of this power is also apparent from the sales which failed to take place during the fuel oil shortage which the Arab embargo occasioned, holding the eastern seaboard utilities ransom. Northeast utili-

* Weiss, supra, p. 138-139.

ties were unable to purchase more than a third of their requirements for substitute and cheaper power, according to reports of their "pools". This shortfall happened despite the operation of the federal "coal-by-wire" program to make cheap coal-fired electricity from the Midwest available on demand. According to public papers filed with the Federal Power Commission*, one Midwest utility tried in vain to sell its cheap off-peak power to a willing New York utility. The Midwest company, a municipal, alleged that the holding company which owned the interconnected operating utilities between the Midwest and the Northeast refused to act as a common carrier or to buy the power on economical terms from the Midwest municipal for resale to the New York utility. There was no statutory recourse for the municipal utility in light of administrative interpretation by the FPC of its limited statutory authority to mandate "wheeling" and its refusal to bring the circumstance within the scope of §202(c), relating to emergency conditions.

The potential for enhancing the efficient use of existing plant and efficient planning of new capacity which the evolution of the industry imports is very great indeed. Regrettably, it is by no means being adequately tapped, thus continuing needless inefficiencies of production, evaluated from the viewpoint of the country as a whole as

* Comments of Richmond Power and Light of the City of Richmond, Indiana re: Coal-by-Wire, Electric Fuel Conservation Power and Energy Program, before the Federal Power Commission, Docket No. RM74-22. E-8589, E-8550, pp. 31-46, May 23, 1974.

well as particular communities in a given case. The affiliated companies, either in the form of the holding corporation or of "pools", would appear to be inadequately motivated to encourage the full use of the interconnection system. At the very least, this will perpetuate the capacity distortion toward "overbuilding" that inheres in the "rate base" form of regulation of individual utilities. At the worst, whole sections of the country, and certainly entire communities are potentially subject to unfortunate denial of access to the most economical cost-based electricity technically within their reach. The entire Northeast is presently dependent upon expensive oil-fired baseload capacity which is difficult to operate economically. The suboptimal condition of this region will remain for another ten or twelve years. Not before then will nuclear baseload installations now planned or under construction be operating at much lower cost. Consequently, throughout this next decade, the Northeast will have a profound interest in purchasing large quantities of wholesale power below their own costs of production. Other sections of the country can easily become suboptimal with the same result. For example, extensive droughts in communities dependent upon hydro-generation or railroad and coal mine strikes that disrupt supply of coal-fired electricity would force affected utilities to increase purchases of power. Competition that

would permit unaffiliated individual companies to contract rationally for both long-term supplies as well as supplementary and economy power, bought daily or even hourly, is necessary to redress the imbalance between the coordinated companies on the one hand and other utilities now excluded from their arrangements, or included only on terms such as effectively to preclude the wholesale sale of power, on the other hand.

It should be clear from the foregoing outline of the problem that Title III of HR 12461 strikes out in the right direction and that the amendments to the FPA will, at least as an interim program, perform a useful immediate service while Congress has the benefit of the studies and evaluations prescribed by §310. NRMA cannot propose a solution or make specific long range recommendations at this time, as the work that will permit such judgments remains to be done. It is clear enough to the retail industry that more efficient management of this country's electric power resources is essential and may be achieved through increased competition. The "wheeling option" contemplated by Title III is a practical step right now toward increasing all communities' access to cheaper, cost-based electric power, consistent with effective energy conservation.

STATEMENT OF

RICHARD F. WALKER

VICE PRESIDENT, PUBLIC SERVICE COMPANY OF COLORADO

AND

PAST CHAIRMAN, WESTERN SYSTEMS COORDINATING COUNCIL

BEFORE THE

SUBCOMMITTEE ON ENERGY AND POWER

INTERSTATE AND FOREIGN COMMERCE COMMITTEE

UNITED STATES HOUSE OF REPRESENTATIVES

WASHINGTON, D. C.

APRIL 5, 1976

HEARINGS ON H. R. 12461

STATEMENT OF

Richard F. Walker
Vice President, Public Service Company of Colorado
and
Past Chairman, Western Systems Coordinating Council

Before the
Subcommittee on Energy and Power
House Interstate and Foreign Commerce Committee

Washington, D. C.
April 5, 1976

HEARINGS ON H. R. 12461

Mr. Chairman, I am Richard F. Walker, Vice President of Engineering and Planning, Electric Department of Public Service Company of Colorado. I have executive responsibility for the planning and engineering of all electric generation and transmission facilities for my Company. I am also immediate Past Chairman of the Western Systems Coordinating Council which represents all the major electric utilities in the Western United States.

Last year Public Service Company of Colorado sold 11.3 billion kilowatthours of electricity to 657,438 electric customers. The gross capability of the Company's electric generating plants is 2,841,350 kilowatts and its transmission system is represented by 2522 circuit miles of lines.

Western Systems Coordinating Council, referred to as WSCC, is one of nine bulk power supply regional electric reliability councils that have been formed across the nation to assure adequate and reliable electric service to the public served by member electric utility systems. It was the first regional reliability council to be organized and is recognized as a leader in this activity.

The forty-five bulk power electric utility systems represented by WSCC, include 19 investor owned utilities, 9 municipal utilities, 12 public and cooperatively owned utilities, 3 Federal agencies and 2 Canadian systems. In addition, there are 13 electric utility systems that are associate members of the Council. These utility systems provide substantially all of the electric service in the States of Washington, Oregon, California, Arizona, Nevada, New Mexico, Utah, Colorado, Wyoming, Idaho and Montana, as well as portions of South Dakota, Nebraska, West Texas and the Province of British Columbia, Canada.

The material contained herein addresses itself to that portion of H. R. 12461 relating to Joint Use of Bulk Power Facilities -- Title III, Section 301 and Access to Transmission Capacity -- Title III, Section 302.

Joint Use of Bulk Power Facilities

The Western United States is replete with many examples of the joint ownership of Bulk Power Facilities with most every mixture of ownership types. These arrangements have been used

for both fossil stations and nuclear stations. Examples exist of different ownership arrangements for different generating units at a given plant. A few notable examples in the West are:

<u>Generating Plant</u>	<u>Location</u>	<u>Type</u>	<u>Joint Ownership*</u>
Centralia	Washington	Fossil	I,M,P
Colstrip	Montana	Fossil	I
Jim Bridger	Wyoming	Fossil	I
San Juan	New Mexico	Fossil	I
San Onofre	California	Nuclear	I
Mohave	Nevada	Fossil	I,M,P
Four Corners	New Mexico	Fossil	I,P
Navajo	Arizona	Fossil	I,M,P,F
Yuma	Arizona	Fossil	I,P
Hayden	Colorado	Fossil	P
Craig	Colorado	Fossil	M,P
Trojan	Oregon	Nuclear	I,M
Wyodak	Wyoming	Fossil	I

* I - Investor Owned

M - Municipal

P - Public (REA, PUD, etc.)

F - Federal

Through the regional electric reliability councils, there is adequate notification of plans for bulk power facilities; all utilities in the regional areas can then make proper inquiry into the possibility of participation in such facilities. Joint use of facilities that come about by a natural

mechanism of cooperation are bound to be better facilities than those where joint use is a matter of being forced into a given situation. We, therefore, see no need for this proposed section to foster a mechanism that already exists.

Access to Transmission Capacity

In the Western United States, there has been substantial interconnection of transmission facilities and interchanges of power. All major electric systems in the WSCC are interconnected and the flow of power and energy on both a scheduled and unscheduled basis over systems of other entities is accommodated without any system being forced to provide for such flows by rigid legislation. The utility systems have and will continue to work together on the operating problems of accommodating unscheduled or uncontracted flows over foreign systems in addition to contractual commitments. The solution to operation problems regarding use of transmission systems capacity is best solved on a voluntary basis, rather than by an enforced set of inflexible rules or laws. In fact, a set of rigid rules or laws are likely to be incompatible with the multitude of day to day system operating conditions which depend on the inherent flexibility of interconnected transmission operation to maintain the high degree of system reliability enjoyed by electric utilities today.

The wheeling of power and energy is a concept which has been used by utility systems for at least thirty years. Wheeling is generally defined as the use of one party's transmission system by another party on a contractual basis. Over

the years, many kinds of wheeling arrangements have been worked out voluntarily between utility systems.

My Company, for example, has used wheeling arrangements since 1949 and has a variety of contracts with a number of other utilities. In a sense, we are regarded as a pioneer in wheeling arrangements. Other western utilities have made extensive use of wheeling arrangements on a voluntary basis and have found such wheeling very effective in reducing transmission costs and avoiding the possibility of duplicate transmission facilities. Due to the many possible arrangements for wheeling, it is far better that new laws and regulations don't hamper or bring about arbitrary or uneconomic situations.

I would like to relate in chronological order, the wheeling contracts my Company uses:

	<u>Other Party</u>	<u>Contract Date</u>	<u>Service</u>	<u>Rate or Other Method of Compensation</u>
1.	<u>Federal</u> United States Bureau of Reclamation (USBR)	1950	Specific Delivery for 2 locations on Company system by USBR.	Energy Charge/KWH
2.	<u>Federal</u> <u>USBR</u>	1951	Either party will delivery power & energy to other party at locations mutually agreeable to parties.	Energy charge per KWH per mileage zone
3.	<u>Federal</u>	1962	Same service as 2 above, plus, Maximum firm amounts of power were specified for delivery by each party for the other party.	Energy charge per KWH per mileage zone No compensation except for losses which are payable in kind

	<u>Other Party</u>	<u>Contract Date</u>	<u>Service</u>	<u>Rate or Other Method of Compensation</u>
4.	Public Colorado-Ute Electric Association, Inc. (CUEA)	1963	Specific Delivery on firm basis to a wholesale customer of the Company	Energy charge per KWH, plus demand charge per KVA
5.	Public CUEA	1967	Firm Wheeling Delivery by Company for CUEA to specific points and such additional points as mutually agreeable.	Demand Charge per KW
6.	Public Mountain Parks Electric, Inc.	1971	Specific Delivery to Industrial customer of Company	Energy charge per KWH, plus exchange transmission capacity
7.	Public Tri-State Generation and Transmission Assoc., Inc. (TSGT)	1971	Specific Delivery by the Company for TSGT	Demand charge per KW
8.	Public TSGT	1974	Specific Delivery to wholesale customer of the Company	Energy charge per KWH

These wheeling arrangements the Company has used have evolved many delivery points under all types of situations. All parties have benefited and the expenditure of millions of dollars for duplicate transmission facilities has been avoided. In addition to the above types of wheeling arrangements, the Company has a number of interconnection contracts that provide for the use of transmission capacity in a free flowing manner.

The flexibility to make arrangements that best fit a given set of circumstances must be preserved. We believe that existing regulation is adequate and provides the necessary flexibility needed to continue our wheeling arrangements in a meaningful and economic manner.

STATEMENT BY CHARLES F. WHEATLEY, JR.
BEFORE THE SUBCOMMITTEE ON ENERGY AND
POWER OF THE HOUSE COMMITTEE ON
INTERSTATE AND FOREIGN COMMERCE
ON H.R. 12461, 12608

April 5, 1976

My name is Charles F. Wheatley, Jr., of the law firm of Wheatley & Miller, 2600 Virginia Avenue, N.W., Washington, D.C. 20037. I am here, by invitation of the Subcommittee to present my views on the proposals contained in the bills on public utility regulation pending before the Subcommittee, in particular Section 302 of H.R. 12461 which covers access to transmission capacity. The proposed legislation provides for mandatory access to transmission capacity unless such access places an undue burden upon the utility's transmission lines. Such legislation, as outlined below, is imperative to require the Federal Power Commission to apply established antitrust principles prohibiting a refusal to wheel to avoid the effects of a transmission bottleneck whereby small municipal, cooperative or other publicly-owned and operated utility systems can be cut off from the benefits of other available low cost bulk power supplies.

Under Part I of the Federal Power Act, the FPC may require, as a condition of hydroelectric project licenses, that excess capacity on primary lines of licensed hydro projects be made available to utilities other than the licensees for transmission service. This authority derives from the FPC's general authority to condition licenses in the "public interest" so that licensed projects "will be

best adapted to a comprehensive plan . . . for the improvement and utilization of water-power development, and other beneficial public uses." FPC v. Idaho Power Co., 344 U.S. 17, 22 (1952).

This provision for transmission service, however, was purposefully omitted from Part II of the Federal Power Act which is the subject of these hearings.

Congress in formulating Part II of the Federal Power Act considered and affirmatively rejected a provision which would have made it the "duty of every public utility to . . . transmit energy for any person upon reasonable request therefor," Section 202(a) of S. 1725 and H.R. 5423, 74th Cong., 1st Sess., and considered and rewrote a provision which would have given the FPC the power to "direct a public utility to . . . permit the use of its facilities... to...transmit energy for, or exchange energy with, one or more other persons", Section 203(b) of S. 1725 and H.R. 5423, 74th Cong., 1st Sess. See also S. Rep. 621, 74th Cong., 1st Sess. at 19. The FPC consequently held in City of Paris v. Kentucky Utilities Co., 41 F.P.C. 45 (1969), that it lacks plenary authority under Part II to order utilities to provide transmission service. See also, Village of Elbow Lake v. Otter Tail Power Co., 46 F.P.C. 675, affirmed, Otter Tail Power Co. v. FPC, 429 F.2d 232 (8th Cir. 1970).

The Commission's conclusion that it lacked plenary authority to order wheeling was confirmed by the Supreme Court in Otter Tail Power Co., 410 U.S. 366, 374-76 (1973):

So far as wheeling is concerned, there is no authority granted the Commission under Part II of the Federal Power Act to order it, for the bills originally introduced contained common carrier provisions which were deleted. The Act as passed contained only the inter-connection provision set forth in §202(b). The common carrier provision in the original bill and the power to direct wheeling were left to the 'voluntary-coordination of electric facilities.' Insofar as the District Court ordered "wheeling" to correct anticompetitive and monopolistic practices of Otter Tail, there is no conflict with the authority of the Federal Power Commission. 410 U.S. at 375-376 [footnotes omitted]

An important exception to this negation of authority arises if a utility provides or offers transmission service to another utility, the FPC has authority to order it to provide such service to a third utility if the circumstances are the same. This authority derives from the FPC's power under Sections 205 and 206 of the Federal Power Act to prevent undue discrimination or preference in service. For a case in which the FPC set hearing on such an issue, see Boston Edison Co., 510 F.P.C. 557 (1973).

As the law now stands, except for discriminatory actions by public utility companies, the FPC lacks authority to order wheeling. However, it appears reasonably clear that a remedy does exist under the Federal antitrust laws in Federal District Court. In Otter Tail, the Supreme Court sanctioned the power of the federal courts to order wheeling.

In Otter Tail, the Towns preferred to purchase power as full requirements wholesale customers. The Company categorically refused to sell them power at wholesale. Accordingly, the Towns looked to other potential wholesale suppliers, principally the Bureau of Reclamation. The Bureau allocated power to the Towns, but left it to the Towns to arrange for the delivery of the power from the Bureau transmission network to their systems. In two of the Towns, Hankinson and Elbow Lake, the only feasible way to deliver (wheel) the power was over the existing Otter Tail system which interconnected with the Bureau pursuant to the transmission agreement between Otter Tail and the Bureau. Otter Tail refused to wheel the Bureau power. Efforts by the Towns to have rural electric cooperatives deliver power pursuant to transmission agreements between the cooperatives and Otter Tail were thwarted when Otter Tail refused to wheel the power. By virtue of its position of dominance in transmission vis-a-vis these Towns, and the restrictive language in its transmission agreement with the Bureau, Otter Tail choked off any possibility that power could be economically delivered to the Towns.

Other antitrust precedents prohibiting a refusal to wheel may be found in the transmission bottleneck cases. The absence of agreement to wheel at reasonable rates can block

access by publicly owned systems to entitlements, firm power and unit power purchases essential to maintenance of the economic viability and competitive edge of their systems. This transmission bottleneck closely parallels the railroad bottleneck struck down by the Supreme Court in U.S. v. Terminal Railroad Association, 224 U.S. 383 (1912), in which a group of railroads had set up a jointly owned company which controlled practically all terminal facilities in the St. Louis area. The component companies had retained in their agreement the right to veto the use of the joint company's facilities by other railroads, and to discriminate against other railroads in charges. The Supreme Court held that although it would normally not be a restraint of trade for railroads to combine in unifying terminal facilities, geographical factors which made impractical the use of other terminals by outsider lines placed the terminal company in violation of the Sherman Act by reason of its exclusive practices. The company was required to reorganize and to allow its facilities to be made available to all railroads on a non-discriminatory basis.

The Terminal Railroad Association case would seem to teach the lesson that exclusion of a competitor may constitute an unreasonable restraint of trade where there is some facility in the control which is sufficiently important

to impose a real handicap on would-be competitors if they are denied access. It would be no defense that the members of the association had built the facility for themselves. New entrants must be allowed to share the facility on reasonable terms.

The leverage of the major utilities as to transmission and their ability through dominance of transmission and bulk power supply to create a bottleneck to the small publicly-owned systems is well illustrated in the following examples.

The major public utilities have long recognized that wheeling is the common enemy that would permit the small publicly-owned utility to choose its suppliers to take advantage of the lowest possible prices for its power requirements and the best terms and conditions. In short, wheeling is the key to effective competition in the bulk power supply market.

As a result of this, some investor-owned utilities have been turning to the Federal Power Commission in an attempt to shield themselves from the operation of the antitrust laws. The FPC has set for hearing a petition by Boston Edison Co. whereby the Company seeks a declaratory order that the provision of firm wheeling service to a wholesale municipal system to enable it to purchase lower cost wholesale

power from another utility supplier would "not be in the public interest." Boston Edison Co., Docket Nos. E-8187 and E-8700 (September 25, 1974). The Company filed its petition with the FPC to counter the municipal's filing of a federal antitrust action in District Court in Massachusetts. The refusal of the FPC to reject the Company's request, and the subsequent attempt by the Company to stay the Federal antitrust proceedings pending outcome of the FPC proceedings, 1/ demonstrate the new strategy of the companies to avoid any effective remedy to obtain wheeling. The effort appears to be one where wheeling under the antitrust laws can be denied by utilizing some undefined power of the Federal Power Commission to somehow declare it against the public interest.

Under these circumstances, proposed Section 302 of H.R. 12461 is essential to clear the air and direct the Federal Power Commission to order a regulated public utility company to transmit power where it has the capacity to do so. This will have the effect of bringing the antitrust laws and Federal Power Act into harmony with each other. It will provide a needed alternate remedy before the Federal Power Commission to small power systems to be assured of access to available low cost bulk power suppliers. Since many of these

1/ The motion was rejected by District Judge Tauro.

systems must appear before the FPC in other matters, such as defense to wholesale rate increase filings, it is reasonable and proper that the Commission have full jurisdiction to order transmission service for other lower cost bulk power available as a necessary adjunct to its present exclusive jurisdiction over wholesale power rates charged by public utility companies.

In order to effectuate the underlying intent behind Section 302 of H.R. 12461 even more clearly, I suggest an amendment to eliminate the words "finds such action necessary or appropriate in the public interest" on page 35, lines 9 to 10 and inserting the word "shall" in place of "may" in line 10. This will make clear what I believe to be the underlying intent to place a mandatory duty on the Federal Power Commission to order wheeling by a public utility subject to the act, where no undue burden would be placed on such utility thereby. With such authority clearly stated in the Commission it is likely that most public utility companies will voluntarily offer to provide any wheeling services requested by another system when it has capacity available on its system to provide such service. Congress would have previously declared such service to be in the public interest by enacting the statute.

Statement to the Subcommittee On Power & Energy of the House
Committee on Interstate and Foreign Commerce

My name is Hugh A. Wells, I reside in Raleigh, North Carolina where I am employed as Vice President & General Counsel of North Carolina Electric Membership Corporation.

I am a member of the North Carolina Bar, the Georgia Bar, the American Bar Association, the American Trial Lawyers Association, and the American Judicature Society. I am a member of the Federal Energy Administration State Regulatory Advisory Committee.

In December 1969, I was appointed by the Honorable Robert W. Scott, Governor of North Carolina, to an eight year term as a member of the North Carolina Utilities Commission, the regulatory agency in North Carolina which regulates the rates and services of public utility companies, including electric utilities. I served in that office until April 30, 1975 when I resigned to accept my present position.

North Carolina Electric Membership Corporation is the state-wide organization of twenty-eight distribution electric co-ops in North Carolina. We serve our member systems in a variety of ways. Of interest to this Committee, we serve as the power supply negotiator and coordinator for all of our member systems. NCEMC, nor any of its member systems, owns any electric generating capacity or facilities. Our member systems receive their power from Carolina Power & Light Company (45%), Duke Power Company (40%), Virginia Electric & Power Company (10%), and Southeastern Power Administration (5%). Our member systems serve approximately 2,500,000 people.

We serve in certificated areas throughout all of rural North Carolina.

Efforts have been undertaken in the past for the North Carolina cooperatives to acquire or construct their own generating facilities. Until quite recently, these efforts were generally resisted and opposed by the investor-owned industry in North Carolina. Presently, one of the investor-owned entities (Duke Power Company) has offered to sell to its resale customers in North and South Carolina its Catawba Nuclear Station, which is now under construction, and which is scheduled to begin commercial operation in the early 1980s. Negotiations are currently underway between NCEMC and Duke Power Company with regard to Duke's proposal. There are no other concrete negotiations underway between the cooperatives and any other investor-owned company with regard to the joint ownership of facilities, and the North Carolina cooperatives do not at this time have any plans for the construction of their own facilities.

This would indicate that the North Carolina cooperatives will continue to be dependent upon the investor-owned industry for their electric power for the foreseeable future. Whether or not the North Carolina cooperatives are able to own their own generating capacity, they will continue to be faced with the problems of access to the bulk power transmission system of the investor-owned industry in their areas of service. Transmission accessibility and capability affects the availability of electric energy supply, the reliability of that supply, and of course rates. Presently, the cooperatives

have little or no bargaining power with the investor-owned companies with regard to transmission facilities, and are forced to deal with each individual company on a substantially ad hoc basis. Cooperative system planning is often impeded and compromised by these circumstances.

The cooperatives have little bargaining power when it comes to dealing or negotiating with the investor-owned companies with regard to acquiring interest in their generating or transmission facilities. Some of the licensing provisions of some of the nuclear stations now in the planning stage or under construction by the investor-owned industry in the Carolinas might conceivably be used to provide a basis for the cooperatives to acquire ownership in these facilities. But these licenses are in fact limited to nuclear facilities only, and therefore would not give the cooperatives any right to acquire ownership in other types of generation, such as coal, or hydro. This very limited basis of "right" to acquire ownership in facilities being planned or constructed by the investor-owned industry does not provide a satisfactory planning basis for the cooperatives, and their rights in these areas need to be considerably broadened.

All of the cooperatives in North Carolina have been faced with constantly increasing rates from their investor-owned suppliers, and in many cases in recent years, these rate increases have been very high indeed. Not only have the cooperatives been faced with frequent and repeated significant rate increases, but at least one of the investor-owned companies supplying a large part of the co-

operative load in North Carolina is now in the position of pan-caking rate increases on their resale customers. That is, they presently have a very significant rate increase pending before the Federal Power Commission, which has gone through the hearing process, but has not yet been decided by the Commission; and now they have just filed another very sharp rate increase, piled on top of the one which has not yet been decided. Obviously these circumstances are of grave concern to our member systems. Under such circumstances, it is impossible for the management of our member systems to predict the course of rate increases being imposed upon them, which means that they have a very difficult time structuring their own operational budgets and/or preparing their own member consumers for the increases which they will naturally have to pay as a result of the increased rates being imposed upon the cooperatives by their suppliers.

Cooperatives have a vital role in North Carolina's energy future. Our ~~mwh~~ sales, now at about 5,000,000 per year, will reach 8,000,000 in 1980 and 15,000,000 by 1986. We must be able to plan for this growth. We cannot adequately do so under the conditions now prevalent in the electric utility industry. All of these circumstances would indicate that the electric cooperatives in North Carolina and their member consumers would be greatly benefited by the provision of Title III of the Electric Utility Rate Reform and Regulatory Improvement Act, and we would urge the Committee's support of the provisions of Title III.

STATEMENT OF
CHARLES W. LINES, GENERAL ENGINEER
BUREAU OF POWER
FEDERAL POWER COMMISSION

Hearings before the
Subcommittee on Energy and Power
Committee on Interstate and Foreign Commerce
United States House of Representatives

Mr. Chairman and members of the Committee, my comments on H.R. 12461, the "Electric Rate Reform and Regulatory Improvement Act", are restricted to those matters pertaining to Sections 301, 302, and 303 of Title III of the Act. The views expressed are my own, and not necessarily those of the Federal Power Commission.

Section 301 of the Act would add subsection (g) to Section 202 of the Federal Power Act which would make the Commission responsible, upon application or its own motion, for the allocation of a public utility's new, increased, or retired capacity in a bulk power facility within established planning areas. If it be the intent to advance the concept of coordinated planning and operation in order to equitably share resulting economic benefits, it is commendable. However, it is not self-evident that the necessary centering of planning responsibility in a Federal agency would accomplish this purpose. There exists at least an equal probability that the rapidly accelerating progress currently

enjoyed in these areas would be set back, if for no other reason than the removal or lessening of the service obligation toward the consumer, an obligation that is more keenly appreciated by those closer to the consumer in the chain of responsibility.

Under the leadership of the Federal Power Commission, and in accordance with the principles established by FPC Order No. 383, the industry voluntarily organized into nine regional electric reliability councils in order to more efficiently plan and coordinate the necessary expansion of its interconnected bulk power facilities to meet growth. The Commission staff regularly monitors and evaluates these industry plans, and is in a better position objectively in these areas than if it were responsible for the initiation of such plans. Among the items evaluated is the relation of capacity to load, an area very cost sensitive. Generally, such evaluations center on reserve margin of generating capacity over projected peak loads and the availability of capacity. Attached are three recent Bureau of Power publications that illustrate the objectivity of the present system. These are FPC News Release No. 21458, June 9, 1975, "1975 Summer Electric Load Supply Situation"; FPC News Release No. 21520, "Staff Summary of Electric Utility Expansion Plans for 1975-1984"; and the May 1975 Bureau of Power Staff Report "Electrical Generating Plant Availability".

Sections 302 and 303 of the Act would make certain changes in Sections 202(a), 202(b), and 202(c) of the Federal Power Act, principally to remove the concept of the voluntary interconnection of systems for the several reasons given, and implies that the Commission would assume the responsibility for directing the planning and operation of the now widespread interconnected systems. This presents a planning and operating task of even more extensive proportions than that of generating capacity additions. The movement of electric energy is governed entirely by physical laws, and all interconnected systems become interdependent, and necessarily must work in close harmony at local levels. The centralization of this process is not seen as a step toward what is presumed to be the intent of these sections of the Act.

If the intent be to advance the status of interconnections for the several valid well known reasons, there is little reason to change the process which has moved forward since the 1930's with rapid acceleration, and has now reached the point where Nationwide interconnections are virtually complete. The successes of the interconnected systems are many, and include such routine things as the integration of hydro and thermal resources, the support of areas with particular fuel shortages, and mutual support in times of

physical disasters. It is true that these interconnections vary in number and strength, but since they are constrained by both physical and economic laws, it is more reasonable to pursue their evolution as physical and economic needs grow.

If the intent be to broaden the accessibility of certain large scale economies to all systems, the objective is now largely being accomplished in the market place. Except for certain holding companies, the concept of shared facilities was not commonplace 25 or 30 years ago. Since that time, aided by mutual problems of costs, siting, environmental constraints, and the like, it is not unusual to encounter partnerships including all segments of the pluralistic industry in joint endeavor. Rather than centralizing such impetus with a consequent risk of rigidizing such activities, it would seem preferable to consider the removal of any impediments to the ongoing activity. The Federal Power Commission continues its activities with the foregoing objectives in mind. One important facet of this activity includes the Bureau of Power staff work as a catalyst in the area of aiding interested isolated systems. For example, in 1970 there were 243 isolated electric systems known to the staff. As of December 31, 1975, this number had shrunk to 133. As economic forces continue to work, it may be expected that this number will shrink further.

In general, and in the light of the size of the United States and the physical laws governing electric systems operations, it would be desirable to always weigh national interests against centralized control and direction. Any number of situations can be hypothesized where the public interest would best be served with centralized oversight over several independently viable organizations responsible for the planning and operation of realistically sized systems.

NOTE: ATTACHMENTS TO MR. LINES' STATEMENT ARE ON FILE
WITH THE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE.

STATEMENT OF REPRESENTATIVE CHRISTOPHER J. DODD

MR. CHAIRMAN, I WOULD FIRST LIKE TO THANK YOU, AND THE DISTINGUISHED MEMBERS OF THE SUBCOMMITTEE ON ENERGY AND POWER FOR ALLOWING ME TO TESTIFY TODAY IN SUPPORT OF THE REFORM OF ELECTRIC RATE REGULATION.

THIS IS A VERY IMPORTANT AREA FOR CONCERN -- ONE THAT AFFECTS NEARLY ALL AMERICANS, AND CERTAINLY ONE THAT IS LONG OVERDUE FOR REFORM OF THE REGULATORY PROCESS. I WOULD LIKE TO COMMEND THIS SUBCOMMITTEE FOR TAKING THE INITIATIVE IN HOLDING HEARINGS ON THIS SUBJECT, AND I FEEL CONFIDENT THAT YOUR EFFORTS HAVE THE FULL SUPPORT OF PUBLIC.

I WOULD LIKE TO ADDRESS MYSELF TO SEVERAL PROBLEMS WHICH I HAVE FOUND TO EXIST - AND WHICH SEEM TO BE FOSTERED - UNDER CURRENT ELECTRIC RATE REGULATORY PROCEDURES BEFORE THE FEDERAL POWER COMMISSION. I HAVE INTRODUCED LEGISLATION (H.R. 12872) DESIGNED TO RESOLVE THESE INEQUITIES, AND I URGE THAT THE PROVISIONS OF THIS BILL BE ADOPTED BY THIS SUBCOMMITTEE AND INCLUDED IN THE REPORTED LEGISLATION.

AT PRESENT, FEDERAL STATUTES PERTAINING TO WHOLESALE ELECTRIC RATE REGULATION CLEARLY FAVOR THE PETITIONING UTILITY COMPANY, AT THE EXPENSE OF THE WHOLESALE PURCHASER, AND SUBSEQUENTLY, IN MANY INSTANCES, AT THE EXPENSE OF THE ULTIMATE CONSUMER.

WHEN THE FEDERAL POWER ACT WAS ENACTED IN 1935, IT WAS DESIGNED TO PROTECT CUSTOMERS FROM EXCESSIVE AND UNREASONABLE RATES; DURING THE 41 YEARS SINCE ITS ENACTMENT, IT HAS REMAINED ESSENTIALLY UNCHANGED, AND ENORMOUS CHANGES IN ENERGY SUPPLIES AND DEMAND, AND IN CORPORATE PRACTICES AND CONSUMER NEEDS, HAVE RESULTED IN A PRESENT SITUATION WHEREBY THE PROVISIONS OF THE ACT NOT ONLY ALLOW, BUT FOSTER ACTIONS BY PUBLIC UTILITY COMPANIES WHICH ARE CLEARLY CONTRARY TO THE PUBLIC INTEREST.

THIS INEQUITABLE PROCESS OF ELECTRIC RATE REGULATION UNDER THE FEDERAL POWER ACT CAME TO MY ATTENTION SEVERAL MONTHS AGO WHEN I BEGAN TO LOOK INTO THE CIRCUMSTANCES SURROUNDING AN ELECTRIC RATE-HIKE PROPOSAL FILED WITH THE FEDERAL POWER COMMISSION BY CONNECTICUT LIGHT AND POWER COMPANY ON DECEMBER 2, 1976. BECAUSE I HAVE SERIOUS QUESTIONS ABOUT THIS RATE PROPOSAL, I HAVE BECOME AN INTERVENOR IN THIS CASE AND WILL BE TESTIFYING BEFORE THE COMMISSION ON BEHALF OF CUSTOMERS AFFECTED BY THE RATE HIKE.

THIS WAS THE THIRD WHOLESALE INCREASE BY CONNECTICUT LIGHT AND POWER IN AS MANY YEARS, AND NONE OF THESE HAS RECEIVED A FINAL RULING BY THE COMMISSION.

THE FIRST OF THESE PENDING RATE HIKE REQUESTS WAS FILED ON JUNE 16, 1972, AND WENT INTO EFFECT AFTER A 30-DAY NOTICE PERIOD AND A FIVE MONTH SUSPENSION, ON JANUARY 16, 1973. THUS, WE HAVE A RATE WHICH HAS BEEN IN EFFECT FOR WELL OVER THREE YEARS, BUT ON WHICH THE COMMISSION HAS YET TO RENDER A FINAL DECISION AS TO ITS LAWFULNESS.

THIS IS NOT A UNIQUE SITUATION, TO BE SURE, MR. CHAIRMAN.

AT PRESENT THERE ARE MORE THAN 150 ELECTRIC RATE INCREASE CASES PENDING BEFORE THE FEDERAL POWER COMMISSION. THIS REPRESENTS OVER A HALF A BILLION DOLLARS IN ELECTRIC RATES WHICH ARE IN EFFECT -- ON WHICH CUSTOMERS ARE ALREADY PAYING -- BUT FOR WHICH A FINAL DECISION ON LAWFULNESS HAS NOT BEEN RENDERED. AN AVERAGE RATE CASE TAKES OVER A YEAR FROM THE DATE OF FILING TO THE COMPLETION OF HEARINGS BEFORE THE COMMISSION, AND THE FINAL DECISION BY THE PRESIDING ADMINISTRATIVE LAW JUDGE MAY COME MONTHS OR YEARS AFTER THAT. YET UNDER THE PROVISIONS OF THE FEDERAL ACT A PROPOSED RATE MAY BE SUSPENDED FOR NO LONGER THAN FIVE MONTHS.

WHILE REBATES MAY BE ORDERED AT THE TIME OF A FINAL DECISION, IF THE COMMISSION FINDS THE RATE INCREASE TO BE EXCESSIVE, THIS DOES NOT RESOLVE THE FACT THAT THE BURDEN IS ON THE CUSTOMER IN THE MEANTIME - OFTEN FOR YEARS. THE BUDGETS OF MANY SMALL WHOLESALE CUSTOMERS AND OF THEIR RETAIL CUSTOMERS SIMPLY CANNOT HANDLE THIS PROCEDURE, IN MANY INSTANCES.

FURTHERMORE, THE PROCESS ACTS AS AN INCENTIVE FOR THE PETITIONING UTILITY TO INTENTIONALLY DELAY COMMISSION PROCEEDINGS IN ORDER TO KEEP A HIGH RATE IN EFFECT.

IT ALSO ALLOWS A PUBLIC UTILITY TO ATTEMPT TO "SQUEEZE OUT" ITS WHOLESALE PURCHASERS BY CREATING A SITUATION WHERE ITS WHOLESALE RATES ARE HIGHER THAN ITS RETAIL RATES. UNDER CURRENT REGULATIONS THIS MAY BE ACCOMPLISHED QUITE EASILY BY SIMPLY FILING ONE OR MORE INFLATED RATE INCREASE PROPOSALS WITH THE FEDERAL POWER COMMISSION, AND DELAYING THE FINAL DECISION AS LONG AS POSSIBLE.

INDEED, THIS SITUATION HAS OCCURRED WITH THE LATEST FILING BY CONNECTICUT LIGHT AND POWER COMPANY.

THIS NEW RATE WENT INTO EFFECT ON MARCH FIRST OF THIS YEAR, FOLLOWING A TWO-MONTH SUSPENSION. THE COMMISSION WILL BEGIN HEARINGS ON THIS CASE ON WEDNESDAY OF THIS WEEK, AND JUDGING FROM PAST EXPERIENCE, IT MAY BE YEARS BEFORE WE KNOW WHETHER THE RATE IMPOSED ON CLP 'S CUSTOMERS IS LAWFUL. IN THE MEANTIME, WHOLESALE CUSTOMERS ARE PAYING THE INCREASED RATE, AND THEY IN TURN MUST FILE WITH THE STATE PUBLIC UTILITY REGULATORY BODY -- IN CONNECTICUT, THE PUBLIC UTILITY CONTROL AUTHORITY -- TO ADJUST THEIR RATES TO RETAIL CUSTOMERS.

IN THIS INSTANCE, THE BOZRAH LIGHT AND POWER COMPANY, OF BOZRAH, CONNECTICUT, WAS NOT ALLOWED BY THE PUBLIC UTILITY CONTROL AUTHORITY TO INCREASE ITS RETAIL RATES, AND BECAUSE WHOLESALE PURCHASING COSTS HAVE ESCALATED, AS OF MARCH FIRST, THIS COMPANY'S FINANCIAL SOLVENCY IS QUESTIONABLE, AT BEST.

EQUALLY ALARMING IS THE FACT THAT BY "PANCAKING" THEIR LAST THREE WHOLESALE RATE INCREASE FILINGS, CONNECTICUT LIGHT AND POWER COMPANY HAS BEEN ABLE TO RAISE THEIR WHOLESALE RATE TO LEVELS ABOVE THEIR OWN RETAIL RATES.

THE SIMPLEST SOLUTION TO THESE PROBLEMS WOULD APPEAR TO BE, TO REQUIRE THAT A FINAL DECISION MUST BE RENDERED, UPHOLDING THE LAWFULNESS OF THE PROPOSED RATE, BEFORE IT IS ALLOWED TO BE CHARGED.

THIS WOULD ELIMINATE THE PROBLEM OF QUESTIONABLE RATES BEING LEVIED AGAINST WHOLESALE CUSTOMERS; IT WOULD ELIMINATE INCENTIVE FOR A PETITIONING UTILITY COMPANY TO DELAY COMMISSION PROCEEDINGS; AND, IT WOULD SUBSTANTIALLY REDUCE THE POSSIBILITY OF A WHOLESALE PURCHASER'S COSTS BEING IN EXCESS OF WHAT IT IS ALLOWED TO CHARGE.

BUT, THIS MEASURE ALONE WOULD NOT ESTABLISH EQUITY. INDEED, IT MIGHT ESTABLISH A SITUATION WHERE THERE IS INCENTIVE FOR INTERVENORS TO A RATE CASE TO DELAY COMMISSION PROCEEDINGS IN ORDER TO PREVENT AN INCREASE - NO MATTER HOW LAWFUL - FROM BEING CHARGED. CLEARLY, THERE MUST BE SAFEGUARDS AGAINST THIS POSSIBILITY, AS WELL, IN THE INTEREST OF ALLOWING THE COMMISSION TO ACT ON RATE FILINGS IN THE MOST FAIR AND EXPEDITIOUS MANNER POSSIBLE.

THE LEGISLATION I HAVE INTRODUCED PROVIDES WHAT I BELIEVE TO BE AN EFFECTIVE AND EQUITABLE SOLUTION TO THE PROBLEMS I HAVE DISCUSSED.

THE BILL WOULD ELIMINATE INCENTIVE FOR PUBLIC UTILITY COMPANIES TO FILE INFLATED RATE INCREASE PROPOSALS, AND TO DELAY COMMISSION PROCEEDINGS IN ORDER TO KEEP THEM IN EFFECT, BY REQUIRING THAT

NO CHANGE

IN RATE SCHEDULE BE ALLOWED UNTIL A FINAL DECISION IS RENDERED, UPHOLDING THE LAWFULNESS OF THE PROPOSED CHANGE.

THE BILL ALSO PROHIBITS A PUBLIC UTILITY COMPANY FROM FILING FOR A WHOLESALE RATE CHANGE WHILE ANOTHER FILING, PROPOSED BY THE SAME COMPANY, IS STILL PENDING BEFORE THE COMMISSION. I FEEL THAT THIS "ANTI-PANCAKING" PROVISION IS ESSENTIAL: IN ADDITION TO PROVIDING INCENTIVE FOR THE PETITIONING UTILITY COMPANY TO DO THEIR BEST TO EXPEDITE COMMISSION PROCEEDINGS, IT WOULD, IN ALL PROBABILITY, REDUCE THE NUMBER AND THE COMPLEXITY OF CASES PENDING BEFORE THE COMMISSION, THEREBY ENABLING THEM TO DISPOSE OF NEW FILINGS MORE PROMPTLY.

FINALLY, THE PROVISIONS OF THIS BILL WOULD AUTHORIZE THE COMMISSION TO ORDER AN INTERIM RATE SCHEDULE, AFTER A PRELIMINARY HEARING AND THE LAPSE OF A PERIOD OF FIVE MONTHS FROM THE DATE OF FILING, IF IT IS DETERMINED THAT ALL OR PART OF THE NEW SCHEDULE IS LIKELY TO BE HELD LAWFUL. THIS INTERIM RATE SCHEDULE COULD BE IN THE FORM OF AN INCREASE OR DECREASE, AS DECIDED BY THE COMMISSION, AND THE FORMER WOULD BE SUBJECT TO REFUND, IF THE COMMISSION SO ORDERS, AFTER A FINAL DECISION WHICH HOLDS THAT THE INTERIM INCREASE IS EXCESSIVE.

IN ADDITION TO AUTHORIZING THE COMMISSION TO GRANT A SCHEDULE CHANGE WHICH MAY BE NECESSARY, IN THE EVENT OF A LENGTHY PROCEEDING, TO ENABLE THE PETITIONING UTILITY COMPANY TO MEET ITS FINANCIAL COMMITMENTS, THIS MEASURE IS DESIGNED TO ELIMINATE INCENTIVE FOR INTERVENORS TO DELAY COMMISSION PROCEEDINGS, SINCE INCREASES MAY BE ORDERED IF THE PROCEEDING IS NOT CONCLUDED WITHIN FIVE MONTHS OF FILING.

MR. CHAIRMAN, I FEEL IT IS ESSENTIAL THAT WE ALLOW THE FEDERAL POWER COMMISSION TO CONDUCT ACTION ON RATE FILINGS IN THE MOST FAIR AND EXPEDITIOUS MANNER POSSIBLE, AND THAT WE MINIMIZE THE POSSIBILITY OF AN EXCESSIVE RATE FROM BEING CHARGED TO CUSTOMERS. FOR THIS REASON, I URGE THAT THIS THREE-POINT APPROACH TO RESOLVING THE PROBLEM BE ADOPTED.

AS AN INTERVENOR IN THE CONNECTICUT LIGHT AND POWER COMPANY CASE WHICH I MENTIONED EARLIER, I HAVE ENCOUNTERED SEVERAL OTHER PROBLEMS IN CURRENT REGULATORY PROCEDURES WHICH I HOPE WILL BE EVALUATED CAREFULLY IN THE COURSE OF THE SUBCOMMITTEE'S HEARINGS ON THIS ISSUE.

UNDER THE PROVISIONS OF THE FEDERAL POWER ACT, A THIRTY-DAY NOTICE PERIOD MAY BE ORDERED ON A NEW RATE FILING, TO ALLOW TIME FOR THE AFFECTED CUSTOMERS TO BE INFORMED OF THE FILING, AND TO GIVE THEM TIME TO RESPOND. THE PROPOSED RATE MAY NOT BE CHARGED AT LEAST UNTIL THIS THIRTY DAYS HAS EXPIRED. I HAVE FOUND THAT THIRTY DAYS IS INADEQUATE IN MANY INSTANCES: WHEN THE COMMISSION RECEIVES A NUMBER OF FILINGS ON THE SAME DAY, FOR EXAMPLE, IT IS DIFFICULT FOR THEM TO ISSUE NOTICE PROMPTLY FOR ALL OF THESE, AND TO PROVIDE THE CUSTOMERS ADEQUATE TIME TO RESPOND.

I HAVE INCLUDED A MEASURE IN THE LEGISLATION I INTRODUCED WHICH WOULD INCREASE THE NOTICE PERIOD FROM THIRTY TO SIXTY DAYS AND I URGE THAT THIS PROVISION BE ADOPTED, AS WELL.

FINALLY, MR. CHAIRMAN, I AM SURE THAT AT THIS POINT IN THESE HEARINGS THE SUBCOMMITTEE IS WELL AWARE OF THE GENERAL LACK OF COORDINATION BETWEEN THE FEDERAL POWER COMMISSION AND THE VARIOUS STATE UTILITY REGULATORY BODIES. THIS IS, IN FACT, ONE OF THE REASONS WHY UTILITY COMPANIES ARE

ABLE TO ESTABLISH WHOLESALE RATES WHICH ARE HIGHER THAN THEIR RETAIL RATES, THEREBY CREATING THE "PRICE SQUEEZE" SITUATION WHICH I SPOKE OF EARLIER. I KNOW, MR. CHAIRMAN, THAT YOUR BILL, THE "ELECTRIC UTILITY RATE REFORM AND REGULATORY IMPROVEMENT ACT" CONTAINS SEVERAL PROVISIONS WHICH ADDRESS THE PROBLEM OF THIS LACK OF COORDINATION, AND I WOULD LIKE TO COMMEND YOU FOR THIS.

IN ADDITION TO THESE MEASURES, HOWEVER, I FEEL IT IS ESSENTIAL THAT THE BILL REPORTED BY THIS SUBCOMMITTEE CONTAIN A STATEMENT REQUIRING THAT THE FEDERAL POWER COMMISSION TAKE INTO ACCOUNT, IN DETERMINING THE LAWFULNESS OF A PROPOSED SCHEDULE, THE FINANCIAL IMPACT OF THE CHANGE ON EACH WHOLESALE PURCHASER.

I INCLUDED THIS PROVISION IN MY BILL, AND I URGE THAT THIS MEASURE BE GIVEN EVERY CONSIDERATION BY THE SUBCOMMITTEE.

IN CONCLUSION, MR. CHAIRMAN, I WANT TO AGAIN EXPRESS MY THANKS FOR ALLOWING ME TO TESTIFY IN SUPPORT OF THESE MUCH-NEEDED REGULATORY REFORM MEASURES. BESIDES INCLUDING THESE PROVISIONS IN THE "ELECTRIC UTILITY REGULATORY REFORM ACT OF 1976" (H.R. 12872) WHICH I INTRODUCED ON MARCH 30TH, I HAVE DRAFTED THEM IN THE FORM OF AMENDMENTS TO YOUR BILL, MR. CHAIRMAN, AND I WOULD LIKE TO SUBMIT THEM FOR YOUR CONSIDERATION.

I WANT TO THANK YOU ONCE AGAIN, AND ASSURE YOU THAT YOU HAVE MY FULL SUPPORT FOR YOUR EFFORTS TO ESTABLISH ELECTRIC RATE REGULATIONS WHICH ARE TRULY IN THE PUBLIC INTEREST.

#

PANEL ON WHOLESALE RATE REGULATION

STATEMENTS OF: WILLIAM W. HARSCH, THOMAS M. DEBEVOISE,
ALEX RADIN, ROBERT D. PARTRIDGE, DR. WILLIAM W. LINDSAY,
RICHARD L. OLSON, AND ROBERT E. GRIMSHAW

TESTIMONY OF WILLIAM W. HARSCH,

CHAIRMAN, RHODE ISLAND PUBLIC UTILITIES COMMISSION

HOUSE INTERSTATE AND FOREIGN

COMMERCE COMMITTEE

ENERGY AND POWER SUBCOMMITTEE

APRIL 5, 1976

WHOLESALE RATEMAKING TESTIMONY

At the outset of my testimony, I would like to say that I am honored to have been included on the impressive list of witnesses who will be appearing before you during these two weeks of hearings.

I would also like to congratulate the distinguished members of the subcommittee and the obviously dedicated staff which has put together this most helpful, in-depth, investigation of the regulatory process. It appears to me that the transcript of these proceedings should become required reading for all students of the regulatory process, and I look forward to following the progress of the hearings.

I think my testimony may be somewhat unique compared to several of the other witnesses you have heard and will be hearing. For I come before you as a state regulator, with his dues in the National Association of Regulatory Utility Commissioners completely paid up, who is not going to mention states' rights in a single instance, and whose testimony completely ignores the dangers of a tyranny of federal bureaucracies.

Luckily, I have been asked to focus my remarks on sections of the proposed legislation which deal with wholesale rate regulation and the Federal Power Commission, and I have the comparative luxury of being able to ignore the question of whether the

provisions of Title II --- most of which I completely agree with in principle --- take away so much of my flexibility as a state regulator as to make the job routine and boring. There are days, of course, when that prospect would positively delight me.

If I may be allowed just one comment off my assigned subject, I would like to say that I completely agree with the aims of Title IV of the legislation, entitled "Financial Assistance to State Regulatory Authorities." And I am continually amazed to find that there are some of my colleagues who object even to this type of federal participation in state affairs. They obviously have a larger staff than the two dozen overworked and underpaid individuals who comprise my office.

I have a certain amount of experience in working with the Federal Power Commission, and no small list of complaints and frustrations about how that process operates. And since there is no question that the Congress has the jurisdiction and authority to help change the way that Commission does its job, I was most happy to accept your invitation to testify here today.

In Rhode Island, I constantly try to remind myself and the legislators of my

state General Assembly that the regulatory process is essentially a legislative function. I consider my Commission to be an arm of the legislature, and I consider the Federal Power Commission to be an arm of the Congress. For that reason, I believe that the sections of this proposed act which deal directly with the Federal Power Commission are among its most important provisions.

I should say that in general I favor a greater role for the regulatory Commissions of the country in the areas of energy policy and planning for two major reasons:

First, the regulatory process is the key actor in the realities of the current energy crisis, which is essentially a crisis of costs and prices rather than a matter of energy shortages, and Secondly, because the regulatory Commissions of the states and on the national level already have a residual base of legislative authority, usually much more broadly based than most of us realize, which is readily available to be brought to bear immediately, without further legislative action or administrative staffing.

For these reasons I was a supporter of the original version of the bill under discussion, which called for creation of a Federal Energy Commission and which

seemed aimed at giving that regulatory agency a more broad based role in energy policy.

All of which is to say, without going into any great detail, that I would support even more deep seated legislative changes in the role and organization of the Federal Power Commission than the current proposal contains. I am not implying, however, that I don't support the fundamental changes which the present bill contains.

I became chairman of the Rhode Island Public Utilities Commission almost exactly one year ago, and it did not take me very many days on the job to gain a real appreciation for the fact that one of the biggest payoffs for my efforts would come from ensuring that the Federal Power Commission is pursuing its responsibilities at least as diligently as I hoped to pursue mine.

Because of the FPC's jurisdiction over the wholesale price of electricity and the pattern of corporate organization which has flowed from provisions of the Utility Company Holding Act, about 70 percent of the average Rhode Island electric utility bill is now, to all intents and purposes, determined by the Federal Power Commission rather than by the state Public Utilities Commission. This convinces me, as

administrator of the Division of Public Utilities, that a large portion of my time and my staff's time should be devoted to FPC matters.

I would like to focus a large part of my testimony on one section of the proposed legislation Section 304, which would amend the Federal Power Act by adding the following language: "A public utility may not file a schedule which seeks to increase a rate or charge so long as the Commission has pending before it for final determination any schedule previously filed by such public utility."

I support this provision. As a matter of fact, I like it so much that I have it almost committed to memory. I believe it would materially change the way the Federal Power Commission conducts its business for the benefit of the ultimate consumer, and I strongly recommend that this subcommittee recommend its adoption by the Congress.

Let me explain briefly why this type of legislation is so important.

The Federal Power Act and the Natural Gas Act provide that the FPC may suspend rate filings for up to five months, after which the proposed rates must be put into effect. In recent years, however, it has been common for the FPC to suspend rates for only two months, or one month, or even one day. These rates then go into effect without the most rudimentary review to see if they are reasonable. Immediately large costs

are passed on to the local retail companies, and state regulatory Commissions feel pressures they can scarce afford to ignore to allow the local, retail company to pass along the increases to ultimate consumers.

The process doesn't stop there. In our area of the country it has become the rule, rather than the exception, that wholesale utility companies piggy-back rate increase upon rate increase, filing an additional increase before one already pending before the Commission is subjected to a full public hearing and decided on its merits.

Near the end of 1975, the New England Power Company, which is based in Massachusetts and sells power in several New England states, was collecting more than \$80 million of its annual revenues subject to refund from a total of four proposed rate increases --- filed up to two years earlier --- without any of these four cases having been finally disposed of in an FPC investigation and hearing procedure.

A new twist, at least in my experience, to this piggy-backing of rate cases has just been added in which the Company recently agreed to settle its latest case for less than 50 percent of what it originally asked for, but before that settlement procedure was completed it had filed another proposed increase for a specific amount

of annual revenues, this meant that the settlement of the first case would not cause any reduction in prices paid by the consumer, even though the Company itself was willing to admit that the request called for more than twice the revenues it eventually was willing to settle for.

These types of procedures, I submit, give the appearance of regulation where effectively none really exists. It provides the form of regulation, without real substance which could produce meaningful oversight of the operations of mammoth wholesale utility companies which can have an overwhelming effect on the ultimate consumer of electricity.

It should be standard regulatory policy that rates are not put into effect until after they are thoroughly investigated, tested in a public hearing, and ruled upon by the regulatory body in question. I think the proposed legislation would bring this standard of regulatory procedure to the Federal Power Commission.

In closing, I would like to suggest in general terms a major change to the legislation as filed. As I said earlier, I agree in principle with most of the provisions of Title II of the legislation. I am mystified, however, as to why the very important

provisions of Section 204 and Section 205, relating to load management techniques and determination of cost of service, are not repeated in Title III so they would be applicable to the Federal Power Commission's regulation of wholesale power rates.

I believe the subcommittee has heard testimony questioning its jurisdiction over state regulatory authorities so as to allow such detailed requirements be legislated. I am not sure I subscribe to all of those statements, but I think where the Congress' jurisdiction is unquestioned, such as over the operation of the FPC, that these same concerns about load management techniques and cost of service questions should be expressed.

I am not an expert in the making of rates, but I am sure that --- at least as power generation is handled in New England --- the imposition of these same procedures upon the Federal Power Commission would go far to further the intent of the act and would impact heavily upon the conservation of energy and the equally important conservation of capital.

I thank the Subcommittee for the opportunity to testify and I hope that my comments have been helpful.

STATEMENT OF
THOMAS M. DEBEVOISE
WITH RESPECT TO
H. R. 12461
(94th Congress 2d Session)

I am Thomas M. Debevoise, Dean of the Vermont Law School and counsel to the Washington, D. C. law firm of Debevoise & Liberman. My educational and professional experience is set forth in Appendix A. I am appearing to discuss portions of Title III of H. R. 12461.

The March 17, 1976 issue of the Securities Regulation & Law Report of the Bureau of National Affairs reported on the Eleventh Annual Mutual Funds and Investment Management Conference held the preceding week in which one of the major topics of discussion was the Employer Retirement Income Security Act of 1974 ("ERISA"). According to the report,

"There are few issues on which lawyers, accountants, and money managers can reach unanimity. On the second day of the conference, however, one was found. Panel members took turns taking potshots at the Employee Retirement Income Security Act of 1974. By the end of the session, those who took the view that ERISA was merely a badly drawn piece of legislation sounded like they were actually complimenting it."

I refer to this because the same report stated:

"The final speaker, Vance J. Anderson, Counsel - Pension Task Force: House Committee on Labor Standards, himself a draftsman of

ERISA, criticized the law but said that many of the problems could have been avoided. He referred to as 'rotten' the hearing record on which the legislation was based and chided the financial community for not participating more actively in the open hearings."

In this light, I believe that the Committee is making an admirable effort to compile a comprehensive hearing record on the bill. I understand that the Committee is welcoming candid comments on the Bill and it is in this light that I have prepared this statement. I have attempted to group my comments by subject matter rather than in the sequence of the bill's provisions.

1. Adjustment Clauses - Transactions with affiliates.

Section 305 of the Bill would forbid the FPC to permit the inclusion in an automatic adjustment clause of the expenses of goods or services purchased by a public utility from any person who controls, is controlled by, or under common control with such utility. (This provision parallels the provision in Section 203(b)(2)(A) of the bill relating to adjustment clauses subject to State commission regulation.) In my judgment, both provisions of the bill are unsound as a matter of public policy, are inconsistent with the requirements of the Public Utility Holding Company Act of 1935, and would interpose

a major barrier to the assurance of adequate and economic fuel supply - which is one of the major challenges facing electric utilities today. I, therefore, urge that these provisions be deleted from the bill.

The fact that the bill sanctions adjustment clauses (albeit subject to certain restrictions) reflects a recognition that there are some significant costs that change too rapidly (up or down) and to too great a degree to be dealt with only as a part of a full-scale rate revision, i.e., that changes in such costs cannot be forecast with sufficient accuracy to achieve the intended purpose of establishing the appropriate relationship of rate base, revenues, expenses, and cost of capital during the future period when new rates will be in effect. If such future costs must be dealt with solely in base rates and if the forecast of such future costs is too high, charges to consumers will be too high. If the forecast is too low, the utility will be unable to achieve the level of return intended by the rate-making decision.

In the electric utility industry, fuel costs are the primary example, although there are others. Almost all regulatory bodies have recognized the necessity for fuel adjustment clauses as a matter of sound public policy, and I assume that draftsman of the bill did not disagree. The public policy considerations that support such adjustment clauses do not disappear when the changes in cost are

experienced through an intermediary affiliate rather than directly. On the contrary, so long as such changes in cost are appropriately determined, all of them should be reflected in the adjustment clause.

It is worth emphasizing that the effect of including expenses from an affiliate may well be to reduce the adjustment charges rather than to increase them. For example, the purchase of base load energy or fuel supplied by an affiliate is likely to reduce the level of over-all costs, as against purchases from non-affiliates.

There is no question that there have been imperfections in some adjustment clauses, sometimes as a result of poor design of the clause on the part of the utility and sometimes as a result of a decision by the regulatory agency for reasons that were not borne out by subsequent events. In some jurisdictions they operate inequitably against utilities where low cost energy from a major base-load generating facility is taken into account immediately (thereby reducing the fuel adjustment charge) even though base rates are not adjusted until one or two years later to reflect the investment that made such low cost energy available. While there have been some instances in which the charges under the clause have been above actual cost, the fact that very few electric utilities have earned their allowed rate of

return, let alone their actual costs of capital, suggest that customers have not been unfairly treated even in these instances.

With the experience of the last few years, fuel adjustment clauses have been and are being improved. This kind of periodic fine-tuning can clearly be done more appropriately either in regulatory rule-making proceedings or in individual rate cases than by specific legislative standards.

In the case of companies subject to the Public Utility Holding Company Act of 1935, Section 305 and 203(b)(2)(A) would be particularly inappropriate. That Act require, in effect, that the major electric utility facilities of all the operating companies in the System be economically operated as a single and coordinated system. Usually this will mean that major facilities have to be planned and installed on a basis best designed to meet the needs of all the electric utilities in the System. This will affect the size and location of facilities in order to take advantage of a variety of factors, including fuel supply. Substantial sales of power and energy by one company to another are, in reality, required by that Act. The rules under the Act require transactions between affiliates at cost - but such cost also has to include the cost of capital. I do not believe that the bill could be intended to undo the beneficial results produced by this 41-year old statute.

Let me illustrate these comments by reference to two of the public utility holding company systems with which I am familiar.

The General Public Utilities ("GPU") System serves a 24,000 square mile area in Pennsylvania and New Jersey. The western portion of that system includes coal-mining areas and the eastern portion borders on the Atlantic Ocean. The SEC found in 1951 that the GPU System met the standards of the Act largely on the basis of the System's program at that time to concentrate a substantial part of the base-load System generating capacity in the coal-mining area and to transmit part of the energy eastward to the central and eastern portions of the System. This resulted in a substantial savings in cost for all companies in the System and, therefore, in their charges to customers. There were also advantages in that one company in the System could install larger generating units than would be permitted by its own load, with resulting reductions in capital and operating costs per kilowatt.

The result of this program was reflected in substantial sales (at cost) by the western System company under rates filed with the FPC, which have been periodically revised as circumstances changed.

When nuclear generation became economically advantageous in the GPU System area in the early 1960's,

the same approach was used but this time the initial nuclear plant was located in the Eastern portion of the System and there were substantial sales to the Western affiliates. Again, the net effect was to reduce total costs for each Company and thereby to benefit the customers of each Company.

In addition to these transactions which arise out of planning for the power supply requirements for the System as a whole on an optimum basis, there is a substantial volume of interchange transactions among the affiliates in the GPU System. Such transactions are a consequence of the economic loading sequentially of all the generating units in the GPU System in accordance with the standard operations of the Pennsylvania-New Jersey-Maryland Interconnection and which the GPU Companies are a part. Once again this is designed to achieve the most economic power supply for all the companies in the System and, therefore, for their customers.

Only a relatively small part - less than 3% - of the revenues of the GPU System are derived from sales to full or partial requirements wholesale for resale customers, so that the major impact of the transactions that I have been describing relate to retail sales. I am not at all clear how the provisions of Section 305 and Section 203(b)(2)(A) of the Bill would be applied, if those provisions were to be enacted in their present form. If, however, this were

to occur, the result would be unsatisfactory on almost any basis that can be conceived of. For example, if the purchasing company were required to include in the base period and adjustment period costs, the charges that it would have paid if the purchase had been made from a non-affiliate, the result would be to increase its charges to its customers. If it were required to exclude both its actual costs and the alternative of the cost that would have been applicable if the purchase had been from a non-affiliated, provision for such costs would then have to be made on an estimated basis in base rates of the purchasing company or by allowance in its rate of return, both of which would be inconsistent with the objective of adjustment clauses. If the cost were not to be allowed in any fashion, the result would be clearly confiscatory.

The pattern in the New England Electric System ("NEES") is somewhat different from that of the GPU System, although the objective is the same. In the case of NEES, the generating facilities of the System companies are concentrated in a single company, New England Power Company ("NEPCO") which supplies the major part of the energy requirements of the affiliated operating companies. In addition, the NEES System owns varying participations in various Yankee companies in New England, which also supply a part of the NEES System energy requirements and which are probably affiliates of NEES for the purpose of

the bill. Once again, these arrangements are designed to provide power supply with requisite reliability as economically as is feasible. Virtually all of NEPCO's sales are subject to rate regulation by the FPC. The bulk of the NEES System revenues are derived from retail sales. NEPCO makes some sales to wholesale for resale customers and some of its operating affiliates have in the past made, and in the future may make, sales to wholesale for resale customers.

Under Section 203(b)(2)(A) of the Bill, the State commissions regulating the operating company affiliates of NEPCO would be precluded from including in the adjustment clauses authorized by such State commissions charges made to them by NEPCO or the Yankee Companies pursuant to rates approved by the FPC. Yet the State commissions may well conclude that rate regulation of the operating companies in the NEES System would be most effective with such adjustment clauses. Likewise, under Section 305 of the proposed Bill, the operating companies making wholesale sales for resale would be required to exclude charges from NEPCO and the Yankee Companies from the adjustment clause of the operating company relating to such wholesale sales. The result would be that the FPC could authorize NEPCO to make a charge to a NEES operating company, but could not authorize a NEES operating company to pass that increased charge along through an adjustment clause. Since the whole basis under the Holding Company Act for permitting the continued operation

of registered public utility holding company systems is to achieve the practical result of operation of the System as a single economic unit, but to preserve State laws and State regulation, the result of these two Sections cannot be reconciled with that Act.

Earlier, in discussing this subject, I noted that under the standards of the Holding Company Act, and also under the standards of the Federal Power Act, transactions must be at cost. One of the elements of cost is, of course, the cost of capital. In reality there has been little difficulty in applying this standard under these two acts, and the particular provision which I have been discussing would undo much of the progress achieved over the past four decades in carrying out the provisions of those two Acts.

A related problem arises in connection with fuel supply. Only a few years ago, an electric utility could generally obtain adequate fuel supply from non-affiliates and did not find it necessary to undertake major efforts and investments in fuel supply. But this is no longer generally true. A great many electric utilities are now facing the necessity of undertaking a larger role in providing for their own fuel supply, frequently in States outside those in which their public utility operations are conducted. This may involve the acquisition of coal reserves, the financing of the development of mines, uranium exploration activities and

the like. Sometimes this can be done by the utility itself, but generally a separate corporation must be established in order to meet State law requirements, indenture provisions, charter provisions, financing constraints, collective bargaining agreements and the like. Section 305 and Section 203(b)(2)(A) would, on their face, preclude the inclusion of charges made by these fuel affiliates in the operation of adjustment clauses. If this is the case, the result would be to deprive the utility of the opportunity to achieve the most economic fuel supply since, in practical effect, they would then be forced to rely upon a supply from non-affiliates, even though more costly and less reliable.

In summary, I suggest that these provisions of the Bill are highly counter-productive. I believe that there is no major impediment under existing law to the limitation to cost of the elements going into the operation of automatic adjustment clauses whether the cost is that of the utility itself or of an affiliate, and that utilities and their regulatory agencies at the State and Federal level can reasonably be expected to achieve adjustment clauses that will track such costs in a realistic and timely fashion.

2. Adjustment Clauses - Percentage Limitations on Recovery of Cost.

Section 305 of the Bill would forbid the FPC to approve an automatic adjustment clause which provides for

recovery of more than 85% of the amount by which (a) the amount of actual covered expenses exceeds (b) 105% of the base period covered expenses. This provision parallels the provision in Section 203(b)(2)(A) of the Bill relating to adjustment clauses subject to State Commission regulation. While I have understood that this limitation was designed to provide "incentive" in the purchase of goods and services, I believe that the provision is ill-conceived and would make rate regulation much more difficult. Many State and Federal agencies have been enlarging their review of utility procurement practices, and it is understandable and desirable that they should be doing so. But these provisions of the Bill would disallow a portion of increased costs no matter how diligent and effective the utility's procurement practices have been. The only alternative would be to make provision for this portion of the disallowed costs on an estimated basis in the utility's base rates, which would be impractical and undercut the purpose of an adjustment clause, or to deny the utility any recovery of that portion of its costs, which would be contrary to the stated purpose of rate regulation, namely, to allow a utility an opportunity to recover its prudently incurred costs including the cost of its capital.

It should be borne in mind that many of the costs involved in automatic adjustment clauses are wholly beyond the control of a utility. Some recent examples with a major impact were the pricing actions and embargo of the OPEC

Nations, the import tax on imported fuel oil imposed by the Federal government, the costs resulting from the Federal fuel oil allocation program, the additional costs of coal resulting from collective bargaining agreements with the United Mine Workers, OSHA regulations, "black lung" benefits, and ICC-approved rail rate increases, State franchise, gross receipts, energy and fuel taxes. If the Federal government is unable to contain inflation to a satisfactory degree, it is unreasonable for Congress to adopt legislation denying recovery of a part of the inflation in costs experienced by utilities, premised on the belief that utility managers can contain inflation if they are given the incentive to do so.

If the procurement practices of a particular utility - or of a particular governmental agency - are not satisfactory, they should be improved, and the legislative committee and regulatory agency review on that score may be helpful. However, I would point out that regulatory and legislative bodies ought to bring a degree of realism to the subject. Specifically, I suggest that those utility managers who agreed to increases in prices under their fuel supply contracts at the height of the fuel supply crisis in late 1973 and 1974, when, without such price increases, their fuel supplies would have been cut were not necessarily incorrect in believing that they could not fuel their boilers with law suits.

Assuming that costs are prudently incurred, equity, the maintenance of a viable electric utility industry, and even Constitutional principles require that a utility have a realistic opportunity to receive revenues adequate to cover all such costs and not just a portion of them.

3. Construction work in progress ("CWIP").

Section 306 of the bill would forbid the FPC to include any portion of CWIP in rate base. I submit that this provision of the bill is contrary to the public interest and can only result, in the long run, in substantially higher costs to customers.

CWIP reflects an investment made in response to the public utility obligation to serve. In this connection, it is interesting that the draftsman of the bill provides in Section 303 of the bill, for reinforcement of that public utility obligation as applied to wholesale for resale customers, but only three sections later would refuse to recognize in rate base the investment mandated by that obligation.

More than 50 years ago, in his concurring opinion in the Southwestern Bell Telephone Company case which is generally regarded as the foundation of modern rate regulation, Mr. Justice Brandeis stated that it was

the investment made by bondholders and stockholders, not the physical property of a utility, that should be employed as a utility's rate base. The inclusion of CWIP in rate base is completely consistent with that approach.

The FPC is conducting a rulemaking proceeding to determine whether, and to what extent, CWIP should be included in rate base. More than 100 written comments, some of very great length and supported by detailed studies, were filed with the FPC. On March 9, 1976, the FPC heard more than 10 hours of oral argument on the subject from more than 50 witnesses. We believe that the record in that proceeding establishes clearly that

(1) the inclusion of CWIP in rate base rests upon a sound legal foundation,

(2) the inclusion of CWIP in rate base has the long-run effect of reducing costs to customers, and

(3) the inclusion of at least some CWIP in rate base is necessary to permit the optimum development of the Nation's energy resources and to reduce its dependence upon imported fuel.

We must, of course, await the outcome of that proceeding to ascertain whether the FPC concurs in that assessment of the

record. I firmly believe that it will do so. At the present time more than 20 State commissions permit the inclusion of some CWIP in rate base and the matter is under consideration in other States.

The reason that the inclusion of CWIP has become of such great importance is that inflation in costs and the lengthening of construction periods have required approximately a 10-fold increase over the past decade of the portion of investment in a utility that is involved in CWIP. In many companies, as much as one third to one-half of the total investment is embodied in CWIP, and the trend has increased even in the past two years.

The draftsmen of Section 203(c)(1)(A) apparently recognized the necessity for permitting a State regulatory agency to include up to two-thirds of CWIP in rate base. I believe that there can be no logic in not granting the FPC at least as much authority. Indeed, I respectfully suggest that there is no reason for restricting either a State commission or the FPC in this respect. The situation will differ from company to company as well as from State to State. A regulatory agency needs a great deal of flexibility in order to achieve the correct end result, and this is one element.

In summary, the subject is so important that it cannot - must not - be dealt with by a legislative strait-jacket. Section 306 should not be enacted.

4. Limitation on Filing of Rate Increases

Section 304 of the bill would prohibit the filing of a rate increase by a public utility so long as the FPC has pending before it for final determination any rate schedule previously filed by such public utility.

In practical effect, this would permit a public utility to file a rate increase only every 3-5 years, in the absence of a radical change in the FPC procedures and decision-making ability. Given the FPC's responsibilities in both the electric utility and natural gas industries, it is unrealistic to expect such a radical change.

At the present time, a public utility may file a proposed rate change employing a test year that ends not later than 12 months after the proposed effective date of the new rates. Such filing must be accompanied by elaborate data and supporting testimony, including historical data for a period ending not more than seven months prior to the filing. If the filing employs concepts or methodologies not previously accepted by the FPC, the rate increase may be summarily rejected and the FPC has not hesitated to employ such rejection even when the filing employs a concept or methodology that is the subject of a rulemaking initiated by the FPC and pending before it.

Assuming that the filing is not rejected, the FPC may suspend the increase for up to five months after the proposed effective date of the increase, which may not be less than 60 days after the filing of the cost of service data relating to the new proposed rates. Motions and replies are likely to be submitted and these frequently require some time for disposition.

There then begins the lengthy process of data requests and the preparation and filing of prepared testimony of intervenors and the staff and of prepared rebuttal testimony. Some time thereafter, the proceeding is set for hearing. Following the hearings, briefs and reply briefs are filed and the administrative law judge prepares his recommended decision. Exceptions thereto and supporting briefs are then filed with the FPC and ultimately the FPC reaches a decision. Not infrequently, petitions for rehearing are filed and the FPC must act on them.

Unless there is a settlement along the way, the process is likely to take 3 years or longer. With the rapid changes in costs, including the fact that the increases in rate base, operating costs and costs of capital are rapidly outstripping increases in revenues, it is often essential to the maintenance of its ability to finance its construction program that a utility file successive rate increases

so that it can have as many as three or four increases pending before the FPC reaches a final decision on the first. The customer is protected to a significant degree by the fact that the increase is almost invariably subject to refund. The utility, on the other hand, cannot ever collect an increase retroactively, so that, if it is not permitted to file rate increases when changes in its costs make this appropriate, it will suffer a permanent loss.

There can be no doubt that all parties, and particularly the utility, would be in a better position if it were feasible for the FPC to reach a final decision on the filing within three to five months. But clearly this is not feasible, and, indeed, the wholesale for resale customers would urge that they were denied due process if the FPC attempted to dispose of rate increases on such a basis. While I believe that there is room for substantial acceleration by the FPC in the final disposition of rate cases, I believe it is unrealistic to expect that the FPC can do a great deal on this score, even in the absence of enactment of Section 304, since the FPC has a great many responsibilities in addition to reaching decisions on electric utility rate charges.

Section 304 of the bill would change this situation - for the worse. It would provide an almost irresistible incentive for wholesale for resale customers to lengthen

even further the substantial period now required for final disposition of proceedings. A skillful advocate for a wholesale for resale customer - and, usually, such customers are well represented - would have little difficulty in extending the period required for final decision by a year or two.

At the present time both the utility and its customers have an incentive to obtain a final disposition of a rate proceeding as promptly as possible. For its part, the utility needs such disposition since the fact that a portion of its revenues are subject to refund necessarily creates a cloud on its earnings for the purpose of determining its ability to meet indenture and charter tests for the issuance of new securities and on the appraisal of such new securities by rating agencies, underwriters and investors. For its part the wholesale customer seeks an early disposition so that it can obtain any refund to which it is entitled. It is this mutuality that accounts for the substantial number of proceedings that are settled (subject to FPC approval) prior to final decision by the FPC. Section 304 of the bill would destroy this mutuality of interest in early disposition. It would not only lengthen the period required for disposition of proceedings but it would also significantly reduce the likelihood of settlement of proceedings.

The drastic curtailment of construction programs of public utilities during the past two years were largely occasioned by financing constraints - i.e., by insufficient earnings to meet the criteria of indentures and charters governing the issuance of new securities - and the current recession has only obscured the adverse long-term consequences of such curtailments. Even under the present statute, some utilities have not been able to finance needed facilities with a suspension period for as long as five months and have found it necessary to seek emergency relief. With Section 304, there would not even be a statutory basis for emergency relief. For a utility with substantial revenues subject to FPC regulation, Section 304 could only result in a disastrous impairment of ability to meet its public utility responsibilities.

5. Marginal Cost Pricing.

In the light of the emphasis given to marginal cost ratemaking in Title II of the bill, the absence of any reference to the subject in Title III is striking. Section 206 provides that covered municipal and cooperative systems shall apply the standards of Section 203 in establishing their own rates, but it does not require an outside agency to review their compliance and many such systems will be exempt even from Section 206 by virtue of Section 201. Thus,

we have the situation in which the marginal cost findings of Section 101 provide an important predicate for the bill, but municipal and cooperatives are either wholly exempt from the marginal cost provisions of the bill with respect to their own sales or are not subject to control by an outside agency in their application of such provisions. Moreover, the bill does not provide for marginal cost pricing on sales to such systems. In the light of the fact that the rate of growth of peak demand of such systems (particularly cooperative systems) is tending to exceed that of regulated public utilities, this disparity in treatment is inexplicable in economic terms. Assuming the validity of the concept that marginal cost pricing is in the National interest, it would appear important to apply that concept to sales to wholesale customers since that could reinforce the provisions of Section 206 that such systems should apply marginal cost concepts to their own sales to their own customers.

6. Competition

Several of the provisions of Part III contain implications that public utilities are employing unfair methods of competition and that the Federal Power Act requires amendment to preclude such actions in the future. I suggest that these implications are today unsupported in fact and that

Congress should not lend credence to them. Indeed, I suggest that the shoe is very much on the other foot.

Let me first make clear that I believe that the great majority of public utilities and publicly-owned and cooperative systems are now working together effectively to serve the Nation's power needs within the limits of their respective financial and other capabilities. Public utilities continue to have difficulties in understanding why the form of the institution through which a particular customer is served (public utility versus cooperative, for example) should affect the level of the costs that the customer pays via his electric bill, and that, if any justification for this difference in treatment existed in the past, it has long since disappeared. Nevertheless, they have grown accustomed to living with this disparity. Public utilities also have difficulty in understanding why the public interest requires lengthy regulatory proceedings for rate changes by a public utility but ordinarily does not in the case of a municipal or cooperative system, but again they have grown accustomed to living with it. Finally, public utilities have difficulty in understanding why municipal and cooperative systems should have a variety of forums (e.g., FPC, NRC, and the courts) in which to make complaints, whereas such forums are not available for complaints by public utilities.

The central issue is the basis upon which all ultimate consumers are to be served. The ultimate source of

the capital required to provide the facilities necessary for such service is the same, i.e., the savings of the Nation's citizens, regardless of whether the facilities are owned by a public utility or a cooperative or a governmental agency. There is no justification for one customer to have a substantial tax component in his electric bill and an identical customer to be relieved of such taxes. There is no reason for one customer to pay rates determined by an independent regulatory agency to be fair and reasonable but for another to pay rates not subjected to regulatory scrutiny. The whole subject of competition should be put in perspective and, if the Congress intends to deal with that issue, it should do so with a comprehensive and unbiased examination of the realities and how the interests of the great majority of the Nation's citizens can be best served.

There are many other matters of importance in Part III which are deserving of comment, but which I have not addressed because this statement is already too long. I appreciate the opportunity afforded to me to appear before the Committee.

Thomas M. Debevoise

STATEMENT OF EDUCATIONAL AND
PROFESSIONAL BACKGROUND
OF THOMAS M. DEBEVOISE

I received a B.A. degree from Yale University in 1950 and LL.B. degree from Columbia Law School in 1954. From 1954 to 1956 I was an Assistant U. S. Attorney for the Southern District of New York. I practiced law in the State of Vermont thereafter and served as Attorney General of the State of Vermont during the period 1960-62.

In 1962, I became Assistant General Counsel of the Federal Power Commission in charge of electric utility matters and served in that capacity during the period 1962-64.

While I was at the Federal Power Commission, I served as chairman of the Legal Advisory Committee of the Commission's National Power Survey. I left the Federal Power Commission in 1964 and opened my own law office in the District of Columbia and a year later participated in the formation of the District of Columbia law firm of Debevoise & Liberman. I continued as senior partner of that firm from 1965 through 1974, with the larger part of my practice being devoted to electric utility matters.

In 1974 I became Dean of the Vermont Law School, Woodstock, Vermont, and counsel to the Debevoise & Liberman firm and I am presently serving in those capacities.

I am a member of the bar of the District of Columbia and of the States of New York and Vermont, and of American, District of Columbia, Federal, Federal Power and Vermont Bar Associations and of the Association of the Bar of the City of New York.

Statement by Alex Radin, Executive Director,
American Public Power Association, Washington, D.C.
before Subcommittee on Energy and Power of the
House Interstate and Foreign Commerce Committee
April 5, 1976

My name is Alex Radin. I am Executive Director of the American Public Power Association, a national organization representing more than 1400 local publicly owned electric utilities in 48 States, Guam, the Virgin Islands, Puerto Rico, and American Samoa.

Our Association is pleased to offer views on H.R. 12461 and related legislative proposals. We are especially interested in wholesale electric rate regulation, the subject of the panel in which I am participating, because 867 of the more than 2,200 municipal and other local publicly owned electric utilities purchase all or part of their wholesale power requirements from private power companies subject to the jurisdiction of the Federal Power Commission.

Although I will confine my testimony today to the subject of wholesale rate regulation, members of our Association also have a vital interest in other provisions of this bill. If agreeable with the committee, I would like to submit our views on other provisions separately, before the record of these hearings is closed.

Our concern with the state of wholesale electric rate regulation stems from the fact that we do not feel that the consumer protection provisions of the Federal Power Act which were mandated by the Congress in 1935 have been adequately carried out in recent years. Among other things, those consumer protection provisions were designed to achieve these objectives: first, to protect wholesale purchasers of electric power from anticompetitive abuse; and second, to insure that wholesale electric rates are set at just and reasonable levels.

To put our concern in perspective, it is important to understand that local publicly owned electric utilities (most of which are owned and operated on a non-profit basis by municipalities), rural electric cooperatives, and small private power companies

are the wholesale purchasers meant to be protected under Parts II and III of the Federal Power Act, both in terms of reasonable rates and in maintaining competitive opportunities in the wholesale power market.

The vast disparity in the average size and resources of the wholesale purchasers and the supplying privately owned utilities demonstrates the need for the protection of the smaller purchasing utilities by the Federal Power Commission. Although there are some large local publicly owned electric utilities, such as those serving the cities of Los Angeles, Seattle, Memphis, Jacksonville and others, the average local public power system is quite small, serving an estimated 5,000 meters. By contrast, the average privately owned electric utility serves more than 281,000 meters.

These figures highlight the extent to which the wholesale purchasers of electric power must rely upon FPC for protection against excessive rates and anticompetitive practices.

Another factor to keep in mind in judging the significance of the consumer protection features of the Federal Power Act is the relative importance of wholesale sales to the seller and the purchaser of wholesale power. Revenues from wholesale sales to the average privately owned power company account for only about 8.2% of total electric operating revenues, and only 1.5% of the revenues of the average private power company are derived from wholesale sales to publicly owned electric utilities. On the other hand, purchased power costs of the local public power systems served by privately owned utilities represent an estimated 70% or more of the total electric operating and maintenance expenses of the average publicly owned electric utility.

Thus, an increase in wholesale rates by a private power company could have relatively little impact on that utility's financial standing, but a very significant effect on the expenses of the purchasing utility. In fact, wholesale power costs represent the largest single item of expense of a utility; consequently, the level of wholesale rates could mean life or death for a utility dependent upon wholesale purchases of power.

The legislation which this subcommittee is considering would reaffirm and strengthen the consumer protection mandate of 1935 in several areas of wholesale regulation and competition. Such an updating of the Act is necessary if our nation's pluralistic electric power industry is to survive with active, competitive participation by small publicly owned electric utilities.

Need to Expedite FPC Action on Wholesale Rate Cases

As presently constituted, the wholesale rate filing provisions of Section 205(e) of the Federal Power Act are seriously deficient. That section authorizes the Commission, in its discretion, to suspend rate increase filings for up to five months. After the suspension period the rates go into effect without any determination as to whether they are lawful, until a final order is rendered by the Commission.

Rates collected until final disposition by the Commission are subject to refund to the purchasing utility, and it may appear that the refund provisions offer protection to the wholesale purchaser. However, in the real world this is not true.

In the first place, during the period in which an increase is pending before the Commission, the purchaser pays a rate which has not been declared lawful. The period before the rate case is finally resolved by the Commission may drag on for many months, if not years. We are aware of some cases which have been pending before the Commission for three or four years without a decision having been rendered.

Secondly, the Commission has frequently allowed successive rate increases to go into effect before the first one has been decided. This situation results in the so-called "pancaking" of rate increases, one on top of another.

To further compound the problem, the wholesale rate charged a municipal utility may in fact be higher than some retail rates charged by the supplying utility in a competing service area.

What this adds up to is a situation whereby the wholesale purchaser intended to be protected by the Federal Power Act, both as to rates and as a viable competitor,

may be forced to charge higher retail rates than the neighboring company which acts both as a wholesale supplier and a retail competitor.

It is obvious that consumers of the purchasing utility will not long endure this situation. They may thus be forced to favor a sale of the purchasing utility to its large private power company supplier--not because its operations are not viable, not because it is less efficient, and not because of poor service, but because delay at the Commission and deficiencies of Section 205(e) are thwarting the mandate of the entire Act - which is to protect and preserve a competitive, pluralistic electric industry.

Section 304 of H.R. 12461 would provide some relief to the problem described by prohibiting "pancaking" of wholesale rate increases before the Commission, but it retains the current five-month suspension provisions. APPA supports this provision, but believes that it should be amended along the lines of Section 4 of H.R. 12608, which would change Section 205(e) of the Federal Power Act to provide that, "No rate or charge, or any portion thereof, sought to be increased by a public utility under this section shall become effective until hearings have been completed and a final order issued by the Commission upholding the lawfulness of all or a portion of any such increase." This amendment would stop the "pancaking" of wholesale rate increases and insure that purchasing utilities are paying only rates found lawful by the Commission.

It should be noted that under Section 4 of H.R. 12608, a portion of an increase may be found lawful, while other parts are being contested. Such a procedure is consistent with the practice followed by many state commissions, and should act as an incentive for the Commission to dispose of rate cases expeditiously, and as an incentive for supplying companies to present cost figures most likely to be found lawful either in whole or in part, without protracted hearings.

We note that the Commission has taken cognizance of the problem of delays in deciding rate cases by announcing last week that it would take certain steps to

reduce regulatory lag. The present Commission is to be commended for its efforts in this direction, but it is impossible to know at this point whether the procedures contemplated by the Commission will in fact speed up its processing of rate cases, and if so, to what extent.

In any event, we feel that amendment of the Federal Power Act along the lines we have discussed would be the most effective means of insuring more expeditious handling of rate cases by the Commission.

Many of the problems associated with Section 205(e) come about because the small purchasing utility is in a position of being a captive wholesale customer. Yet, within the last decade there have been numerous cases which have confirmed the fact that private power companies are subject to the antitrust laws and that there is no "natural monopoly" in the sale of power at wholesale. What this means is that every electric utility, large or small, public or private, has a legal right to enter a wholesale power market whereby it can purchase power from any supplier - not just a neighboring utility - and where it can expect equal treatment in receiving transmission service, coordination of facilities, pooling of generating resources, and participation in bulk power supply transactions.

As noted by the United States Supreme Court in a 1973 decision: "There is nothing in the legislative history which reveals the purpose to insulate electric power companies from the antitrust laws. To the contrary, the history of Part II of the Federal Power Act indicates an overriding policy of maintaining competition to the maximum extent possible consistent with the public interest." Otter Tail Power Co. v. U.S., 410 U.S. 366, 374 (1973).

In another decision, the Court stated that the Commission "possesses broad regulatory authority ... (and) is charged with responsibility for considering anti-trust policy under its statute." Gulf States Utilities v. FPC, 411 U.S. 747, 761 (1973).

These cases, and others, have unequivocally held that the Commission has a duty to consider antitrust matters and order appropriate remedies. However, the present Commission acts as if it had not received copies of the opinions cited, and consistently ignores allegations of anticompetitive practices. The Supreme Court (and APPA agrees) believes that the present Act imposes a duty on the Commission to insure a free-flowing wholesale market for electric power.

To assure that this mandate is fulfilled, APPA supports several sections of H.R. 12461 which would help to guarantee that even an unsympathetic Commission will be more faithful in carrying out its antitrust mandates.

Prohibition Against Unfair Competition

Section 307 of H.R. 12461 would empower the Commission to prohibit any "unfair method of competition," either on its own motion or on complaint, and provide for the rejection of filings which would result in an unfair method of competition, such as proposed wholesale rates which are higher than retail rates of the wholesale supplier. This addition to the Federal Power Act would arm the Commission with the flexibility to deal with anticompetitive problems in their incipency.

For example, if a pooling contract filed with the Commission contained provisions restricting entry, it could be challenged at the time of the filing, rather than forcing the excluded utility to engage in long, expensive antitrust struggles in the courts or before the Commission. Blatant anticompetitive practices such as refusals to sell, exchange, or transmit power at wholesale also could be challenged. Contractual provisions restricting the right of wholesale customers to interconnect, pool, install generation, expand territory, or deal with other utilities also could be eliminated.

The purpose of Section 307 is not new to the electric industry. In 1970, the Atomic Energy Act was amended to provide for preclicensing antitrust review of nuclear power generating facilities. Under this amendment, the Nuclear Regulatory Commission was given a mandate to look at anticompetitive matters in their incipency. That

amendment was not an attack on those utilities seeking nuclear power plant licenses. It reflected the need for insuring competition in the wholesale power market.

We believe that the amendment has worked well for all electric utilities involved, and for consumers. It has facilitated better coordination among utilities in the planning, construction and utilization of electric facilities, and has permitted smaller utilities access to units to which they otherwise would have been precluded from obtaining a share of ownership or output.

A paper presented on March 10, 1976 by David W. Penn of the Antitrust and Indemnity Group, Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, entitled, "The NRC's Antitrust License Conditions and the Structure of the Electric Utility Industry," described the various license conditions effected by NRC antitrust review. They fall in five general categories: unit access (through direct ownership or sale of power), transmission services, coordinated operations, planning, and contractual provisions.

With few exceptions, antitrust review at NRC has not resulted in contested cases, and there is virtually no evidence of delay. Yet, for the small electric utility, this amendment has opened new opportunities. For example, the Pascoag, R.I., Fire District & Electric Co. (a municipally owned utility serving 2800 customers) recently acquired .05% ownership of a 1100 megawatt nuclear power plant to be built in Maine. Power from that plant will flow to Pascoag through transmission lines associated with the New England Power Pool, which represents a coordinated effort of public and private electric utilities in that region.

APPA believes that experience under the Atomic Energy Act has been good for all segments of the electric industry. It is time to amend the Federal Power Act to accomplish the same effective results in all areas of wholesale power supply - not just those associated with nuclear power plants. To achieve this objective, we strongly support Section 307 of H.R. 12461.

Amendments Would Promote Interconnections, Power Pooling

However, other steps are necessary, too. A legal right or a fair opportunity without a means to implement it is not worth much. Consider, for example, the Pascoag Fire District situation: assuming it had been offered only ownership without transmission rights, such ownership alone would not have made a single kilowatt hour available to the Fire District from the nuclear plant in Maine.

Wholesale power market conditions should make it possible for every utility to sell and buy power in the most economically feasible and competitive manner. However, the present provisions of the Federal Power Act are not adequate to achieve this purpose.

The 1935 mandate contained in Section 202(a) of the Act which instructed the Commission to encourage "voluntary" interconnections should be stricken, and replaced with the new standard proposed in Section 302(a) of H.R. 12461, which would instruct the Commission to promote interconnections "for the purpose of assuring the goals set forth in this part and to assure maximum competitive opportunities for the purchase and sale of electric energy at wholesale at the lowest possible cost."

Section 302(b) of H.R. 12461 would amend Section 202(b) of the Act, empowering the Commission to order transmission services, wheeling, pooling, and coordination. It would thus insure that the Act reflected the current state of bulk power supply technology and arrangements. The 1970 National Power Survey issued by the Federal Power Commission stated both the problem and the solution in two brief paragraphs:

Simultaneous outages of major generating plants, delays in placing new generation in service on schedule, fuel shortages, and unforeseen power demands have jeopardized or degraded bulk power supply in some sections of the country. Overall system stability must be protected at all times in spite of these difficulties, so there is need to provide large blocks of economic and reliable generation, and to provide transmission networks capable of transferring large amounts of power from one area to another.

The electric utility industry can achieve full coordination, without altering its pluralistic character, by coordinating the planning, construction, and operating activities of all utility groups in areas with loads of sufficient size to realize all the potential benefits of modern technology, and by strengthening generation and transmission facilities as necessary for assuring

adequacy and reliability of power supply. Certainly, from both the resource conservation and economy of service viewpoints, coordination among all of the utilities within the respective regions should be a major objective.

The importance of amending Section 202(b) cannot be overstated. Advancement in the planning and building of transmission facilities and coordination has varied from region to region for many years, and the Federal Power Act has not proved to be entirely adequate in assuring such arrangements in areas of the country where coordination and fair opportunity for participation by all electric utilities has not taken place.

For example, the New England Power Pool was the result of proceedings initiated by small utilities in many forums, including FPC, the Securities and Exchange Commission, and the former Atomic Energy Commission. Had the Federal Power Act been amended in the manner proposed in Section 302(b) of H.R. 12461, it is possible that a great deal of expense and litigatory delay could have been avoided while achieving the benefits of NEPOOL. Recently, Mr. James Tribble of the New England Electric System described the progress being made under that agreement:

"The Pool has operated successfully since 1971. Reliability and economy have been improved markedly by central dispatching. Economies of scale are being realized as numerous jointly-owned generating units are committed and interpool purchases arranged. Membership in NEPOOL has grown to include over 50 utilities having over 98% of the total New England load. This record of success is expected to continue in the future."

Secretary of the Interior Thomas Kleppe recently indicated that the Department of the Interior will ask Congress to authorize a second direct current intertie between the Pacific Northwest and the Pacific Southwest. This transmission facility would be some 1,054 miles in length and, as Secretary Kleppe noted, would substitute hydroelectric power for more expensive oil, and reduce the need for additional generating capacity. All this would be possible by building a line which would enable the transfer of energy between regions, and save at least \$84 million annually, according to the Secretary.

Although excellent progress has been made in many regions in recent years in assuring better coordination and pooling of all utilities (as witness the Pacific Northwest-Pacific Southwest intertie and the NEPOOL arrangement in New England), there are still cases of municipal utilities being denied access to transmission and other such arrangements.

We believe that the amendment to Section 202(a) of the Federal Power Act by Section 302(b) of H.R. 12461 would assure small as well as large electric utilities of such bulk power supply services as emergency back-up, high-voltage service, reserve sharing, seasonal exchanges, central dispatching, and other services which are essential to effective pooling and coordination.

APPA also supports the provisions of Section 301 of H.R. 12461, which would require each public utility to make new or increased capacity in transmission and generating facilities available to other utilities within certain "planning areas."

This amendment would be of particular value to small electric systems which may face the prospect of shutting down generators because of unavailability of natural gas. It could also be useful to utilities which might be ordered to shut down or convert oil-fired plants as a conservation measure. The amendment proposed by Section 301 would give such utilities an opportunity to participate in a more economical power supply than might otherwise be available. It could also make possible better coordination of power facilities within a region.

Continuity of Wholesale Power Supply Must Be Assured

In recent months some private power companies subject to the jurisdiction of the FPC have given notice to their wholesale customers that power supply will be on a day-to-day basis. Again, it is the small purchasing utility which is placed in a

precarious position by such an action. Without the assurance of continuous service the wholesale purchasing utility is placed at a competitive disadvantage, and may find it difficult to retain or attract industry concerned about an assured power supply. The wholesale purchaser also may be forced to pursue uneconomic power supply choices in order to serve its retail customers.

The reason given for such curtailment actions is anticipated power deficiencies of the supplier. Such actions raise questions which are addressed in Section 303 of H.R. 12461, and Section 3 of H.R. 12608. Both sections would amend Section 202(c) of the Federal Power Act in order to assure "continuity of service" to wholesale purchasers, require reporting of anticipated deficiencies of power, provide for fair curtailment plans, and authorize the Commission to order interconnections and other arrangements to alleviate power shortages.

APPA believes that the current provisions of the Federal Power Act do not allow a public utility to withdraw service from a wholesale customer after service has been initiated. When a contractual relationship has been established between the supplier and the wholesale customer, a public utility obligation is placed upon that supplier, which includes the duty to serve without undue discrimination or unfair preference. A right of a customer to service implies an obligation by the supplier to provide service on a continuous basis. In light of the competitive status between supplier and wholesale customer, the public utility responsibility imposed by the Act means that the supplier may not keep his retail customers on continuous service while cutting off power to the wholesale customer. These issues are currently being litigated before the Commission.

Assuming that APPA's interpretation of the Act is upheld, we still believe that the amendments to Section 202(c) are necessary, for several reasons: First, a statutory method for evaluating the availability of power would be initiated; second,

new criteria for curtailment of retail customers would be mandated; and third, specific authority would be given to the Commission to take those steps necessary to cope with power shortages, should they arise.

Although Section 305 is entitled "Fuel Adjustment Clause", the language in the body of the bill (page 37, line 23; page 38, lines 4, 5, 10, 19, 20, and 23; page 39, line 1) uses the term "automatic adjustment clause." This language should be changed either to "automatic fuel adjustment clause" or simply "fuel adjustment clause." Otherwise, this language may be used to justify Commission approval of a wide variety of long-sought automatic "adjusters," including so-called "commodity" clauses, "tax" clauses, "labor" clauses, etc.

Section 305 would limit the pass-through of increased fuel costs to less than 100% of the increase even after some increase (5% above mean base price) had been completely absorbed without rate increases. This limitation presumably is intended to shield consumers from the full brunt of rate increases resulting from rising fuel costs, and to encourage diligent efforts by utilities to hold down fuel costs wherever possible. This limitation on "pass through" may be desirable over some range of fuel price changes but it may be unreasonable in the event of incidents of very sharp and rapid increases in fuel cost such as occurred during the Arab oil embargo of 1973. Perhaps both utilities and consumers could be afforded protection if the full pass through were allowed after fuel had risen beyond a certain point above the "base," with the proviso that such increases would be subject to refund after subsequent evidentiary hearing.

Auditing of Fuel Purchasing Practices

APPA supports enactment of the provisions of Section 305 of H.R. 12461, and Section 7 of H.R. 12608, both of which would provide for audits by the Commission of fuel acquisition practices and empower it to halt any practice which is "unreasonably discriminatory or anticompetitive in nature."

The Commission has embarked on a number of fuel purchasing audits and investigations, and it should be commended for these efforts. The proposed amendment, however, would create an ongoing program of auditing fuel purchases, insuring that the interest of any future Commission is not diverted from this important aspect of utility rate-making.

In addition, the standards requiring competitive fuel purchases by public utilities would assure consumers that the price paid for fuel is the result of hard bargaining. This requirement is badly needed in light of the fact that fuel costs can presently be passed on without continuous scrutiny by the Commission under a competitive purchasing standard.

There are two additional provisions concerning wholesale ratemaking that APPA hopes will be supported by the Subcommittee:

1. Inclusion of "construction work in progress" (CWIP) in the rate base should be prohibited. Such a prohibition is covered both in Section 306 of H.R. 12461 and Section 6 of H.R. 12608, which limits costs that may be included in the rate base to facilities which are "used and useful." The standard of "used and useful" is currently contained in the regulations of the Commission, but FPC is now considering a rulemaking which would allow CWIP.
2. Use of a future test year in establishing wholesale electric rates should be prevented by requiring rates to be based on "actual costs which are known and measurable with reasonable accuracy at the time of the filing..." Such a prohibition would be called for in Section 6 of H.R. 12608. This standard was contained in the Commission's regulations until recently, when the Commission adopted a rulemaking allowing use of future test year data. We believe that rates should not be based on hypothetical, conjectural estimates which might well become self-fulfilling.

APPA supports the concept of a Public Counsel within the Federal Power Commission, as would be established in Section 308 of H.R. 12461. However, as an alternative, we would also suggest that the Subcommittee look at the possibility of adopting amendments to the Act which would insure more independent participation in proceedings by the staff of the Commission.

* * *

In conclusion, APPA would like to commend the Subcommittee for considering urgently needed changes in those parts of the Federal Power Act which concern wholesale regulation. Not since its enactment in 1935 has the Act been examined seriously to see if it is fulfilling its original mandate. We believe that the Act does need to be amended if wholesale purchasers are to be assured of competitive opportunities and reasonable rates. APPA urges the enactment of amendments to the Act which would accomplish these purposes.

Statement of the
National Rural Electric Cooperative Association
Before the
Subcommittee on Energy and Power of the
House Interstate and Foreign Commerce Committee
on H.R. 12461
April 5, 1976

Mr. Chairman, and members of the Subcommittee on Energy and Power of the House Interstate and Foreign Commerce Committee, my name is Robert D. Partridge. I am Executive Vice President and General Manager of the National Rural Electric Cooperative Association. I am accompanied by David B. Graham, NRECA Corporate Counsel. We appreciate the opportunity to appear before you today and offer testimony on the "Electric Utility Rate Reform and Regulatory Improvement Act."

The National Rural Electric Cooperative Association (NRECA) is the national service organization whose membership consists of over 1,000 non profit rural electric cooperatives which provide central station electricity to approximately 25 million people in 45 states. Over 900 of our members are electric distribution cooperatives while approximately 50 of our members are bulk power supply systems which generate electricity and transmit it at wholesale to the distribution systems. Rural electric cooperatives generate about 1/3 of the power they sell at retail. About 1/3 of our power is purchased at wholesale from Federal and other governmental power marketing agencies. The remaining 1/3 of the power we sell at retail is purchased at wholesale from investor owned utilities.

First, we would like to thank the Subcommittee for responding to many of the suggestions we made last December in comments submitted on an earlier version of this bill. We appreciated the opportunity provided at that time

to express our views on proposed legislation which could have such far reaching consequences for the electric utility industry.

WHOLESALE POWER NEGOTIATIONS

Our primary interest in this panel and in Title III of H.R. 12461 stems from the fact that electric cooperatives purchase substantial quantities of electric power from investor owned utilities and then distribute that power at retail. We believe the Committee would gain a good understanding of some of the wholesale power negotiation problems encountered by electric cooperatives, which would be alleviated by enactment of Sections 301 through 304 and Section 307 of this bill (or the comparable sections of H.R. 12608), if we outline for you one cooperative's experience in negotiating for use of an investor owned bulk power transmission facility. With the Subcommittee's permission, we will not name either the cooperative or the company because we obviously do not wish to jeopardize the ongoing negotiations.

Although the generation and transmission coop has agreed to pay the total cost of interconnection facilities, the company is only offering a ten year contract under renewal conditions which would make it impossible for the coop to arrange for the necessary long term financing. If this problem could be solved, the coop wants disputes to be settled through either binding arbitration or litigation, but not both because of past experience with companies that regularly choose to litigate when arbitration decisions do not favor the companies. The companies prefer to retain the right to arbitration and subsequent litigation.

Service schedules offered pursuant to the above contract by the company do not provide sufficient time in the event of termination to secure alternate arrangements, and one company is insisting that it have first priority on all excess energy that the coop might have available. Such an arrangement

would preclude the coop from obtaining the best price for the power from competing companies.

Most proposals for firm energy sales between the parties provide for incremental fuel cost rather than average fuel costs. This means that all energy purchased by the coop would be paid for at incremental cost based on oil prices. The coop is insisting that incremental energy charges for firm power purchases should be based on the company's average system fuel cost. These purchases and sales are contracted for over a fixed period of time.

One company is willing to allow the coop to use its existing bulk transmission system as long as it both retains first priority for use of the facility and the specified capacity contracted for by the coop is used only for service to the coop's members. The coop insists that if it is to contract for a specified amount of transmission capacity, such capacity should be available to the coop for service not only to its members, but for any other use up to the full amount contracted for and for which the coop will be paying.

Two of the companies are offering to transmit power provided capacity is available in the company's transmission line, with no assurance that additional capacity will be made available upon reasonable advance notice by the coop. This is perhaps one of the coop's greatest areas of disagreement with the company as the coop feels that if it is to enter into a long term transmission service agreement, in order to meet the needs of present or future member distribution coops, the company must agree to either provide additional capacity over its present system where deliveries are being made, or to make capacity available at an alternate location off of the company's transmission system in close proximity to the coop's requirements for such power. The coop is agreeable to paying the cost-of-service for service provided, but it believes

that the company must obligate itself to provide the transmission capacity required if it is to be a workable arrangement. The coop is willing to provide the investment required to take service from the transmission system.

UNFAIR METHODS OF COMPETITION

In addition to the situation we have just outlined, we believe Section 307 of H.R. 12461, entitled "Unfair Methods of Competition," as well as Section 5 of H.R. 12606, would prove very helpful in alleviating a problem facing cooperatives in Louisiana, Arkansas, Mississippi and southern Missouri, as well as consumers of Arkansas Power & Light Co., Mississippi Power & Light, Arkansas-Missouri Power Co., and New Orleans Public Service Co. The consumer-members of these cooperatives as well as consumers of these companies are being forced to subsidize one totally-owned subsidiary of Middle South Utilities, Inc., Louisiana Power & Light. Each of the aforementioned companies is also a totally-owned subsidiary of Middle South Utilities, Inc.

In repeated testimony and numerous public statements, Middle South Inc. has stressed that the fuel supply, intercommunications, power supply interchanges, generation, etc. are operated in the "best interest of the total four state system", including the interconnection with TVA and SPA.

Total retail and wholesale rate increases approved or pending for the Middle South companies exceed \$145 million, L.P. & L. being an exception. Although Middle South owns its fuel supply company Systems Fuels Inc., the disparity of fuel adjustments range from as low as 36 cents per 1000 kwh on the L.P. & L. system to \$17.00 per 1000 kwh to New Orleans Public Service consumers and from \$14.00 to \$16.00 for consumers of the other companies owned by Middle South Utilities.

Therefore, it is a reasonable assumption that inasmuch as L. P. & L. is the only company of the Middle South System that has competition, that it is being given a favorable fuel and power supply advantage at the expense of consumers of the operating companies in New Orleans, Mississippi, Arkansas and Missouri including the consumers of the Electric Coop through wholesale rates.

Since the welfare of consumers and the rural electric coops in more than one state are involved, we have urged the Federal Power Commission and the U. S. Department of Justice to investigate the business practices of Middle South Utilities Inc. in relation to its totally-owned companies and the rural electric cooperatives, particularly those of L.P. & L. in relation to New Orleans Public Service and the Louisiana electric coops whose wholesale rates were recently increased 90% by L.P. & L.

OTHER TITLES OF H.R. 12461

Unfortunately, we have reservations, if not very serious concerns about several sections of the bill which we feel we should bring to the attention of the subcommittee.

Lifeline Rates

The rural electric cooperatives are particularly concerned about legislative efforts to encourage so called "lifeline" rates. We realize that Sec. 202 (3) (D) provides that "alternative means... to alleviate the burden to low-income residential electric consumers of the high costs of electric energy" can be utilized by affected utilities, but we are afraid that the practical effect of such legislation will be that "lifeline" measures are adopted since neither financially pressed States and localities nor the Federal government appear likely to adopt the more equitable approach of "energy strips."

Rural electric cooperatives have characteristics unique to the electric utility industry which not only severely limit potential benefits to their consumer members such as subsidized "lifeline" rates could provide, but which would prove particularly detrimental to the cooperatives themselves. For example, residential consumers provide 65 - 70% of the revenue to electric cooperatives whereas commercial and industrial consumers provide only 25% of the revenue. Conversely, in other types of electric utilities, residential customers provide about one-third of total revenue, with the bulk of revenue derived from the commercial and industrial sales. Thus, adoption of a lifeline rate reducing the charge for all residential use to a low level would have significantly greater consequences on a rural electric cooperative than on other utilities. The small size of the commercial and industrial classes upon whom the rate burdens would be shifted resulting from artificially lowered residential rates would place those industries and most rural electric systems in a very difficult position. It could have the effect of driving desirable industry, and therefore jobs, out of rural electric service areas.

Another important characteristic unique to rural electric cooperatives is the extremely high fixed costs involved in providing electric service to consumers regardless of the amount of electricity used. The consumer density, i.e., the number of customers per mile of distribution line, of rural electric is only one-tenth of that of investor-owned utilities. Rural electric serve only four consumers per mile whereas investor-owned utilities have over forty consumers per mile. More than \$1,000 in equipment other than that used for generation is required to serve each rural electric consumer. It currently costs a rural electric approximately \$10 per month to serve each consumer before he uses one kilowatt-hour of electricity. Under the lifeline rate, however, this \$10 per month minimum cost would not be recovered from consumers using the specified lifeline levels of electricity. Thus, much of the costs of serving these consumers would be subsidized by the coop's other consumers. In many

systems, much of the burden would be placed upon family farms with possible serious impact upon the cost and availability of food and fiber.

FUEL ADJUSTMENT CLAUSES

Electric cooperative members, just like all other consumers of electricity, do not wish to see fuel adjustment passthroughs abused and their electric utility bills unjustly raised (see earlier comments regarding Middle South Utilities, Inc.). At the same time, however, we believe such fuel clauses should not be arbitrarily limited to recover only a certain percentage of the legitimate fuel costs. [Section 203 (b) (2) (A)] As Mr. Leatherman of Arkansas Electric Co-ops, Inc., points out:

"I presume the logic of only allowing a partial recovery of fuel costs is on the assumption that inefficiency exists. If that is so then the adjustment clause should be revised, accounts audited or methods of purchase examined. But to arbitrarily allow only a portion of the actual cost has no logic. Who is going to pay the balance? The base rates will have to be increased to make up for this loss. Otherwise, someone other than the ratepayer would have to make up the difference. Charge it to the stockholder? Not unless you raise the rate of return or reconcile the cessation of additions to equity capital.

In a municipal utility, will the city council make up this difference? Not likely.

What about a cooperative? Will it assess each of its members? But they are the same consumers you have only charged a portion of the cost. This is going in a circle.

It all adds up to one fundamental fact. The costs of fuel or any other expense of operation of a utility can come from only one source, the ratepayer."

LOAD MANAGEMENT

We believe the application of load management techniques is and will continue to prove very productive for both the electric utility industry and their ultimate consumers. Dairyland Power Cooperative in Wisconsin, Valley Power, Inc. in Ohio and Badak Rural Electric Cooperative in North Dakota are three electric cooperatives that have been utilizing load management practices for some time. Yet they, like many of our members, are very

concerning the extensive costs they would incur if this legislation were law in its present form. For example, Mr. Vince Slatt, Manager of Inland Power & Light Company, a member cooperative in the State of Washington, advised that under Sec. 205 (C) (1) (B), gathering daily kilowatt demand load curve data will be very difficult and extremely expensive because most coops do not have daily kilowatt demand meters.

REDUCTION OF COSTS

Likewise, compliance with other parts of the bill such as Section 201, Section 203 (a) (2) (B) (C), and Section 203 (b) (4) would entail very significant costs which electric consumers would have to bear. Certainly some of those costs could be avoided. For example, we would suggest the substitution of an audit for an evidentiary hearing in Section 203 (b) (4) which calls for review of automatic fuel adjustment claims by the State regulatory authority. If anyone was dissatisfied with the audit, they could complain and request that an evidentiary hearing be conducted. Evidentiary hearings are very expensive and thus, in many cases, unnecessary expense could be saved if no one felt they would be required. Similarly, unnecessary expense could be avoided with regard to Section 203 (a) (4) (B) and (C). Unless a consumer's rate schedule has changed, it would not seem necessary to periodically mail him a copy of the same schedule. If a consumer wants to compare billings with the previous year, he could easily retain the bills for the past year for that purpose. But surprisingly, many consumers are doing just that on a regular basis at the present time.

Perhaps our comments have proved helpful to the Subcommittee. We appreciate the opportunity afforded to us to provide them to you.

STATEMENT OF

WILLIAM W. LINDSAY
ASSISTANT CHIEF, OFFICE OF ECONOMICS
FEDERAL POWER COMMISSION

HEARINGS ON H.R. 12461
BEFORE THE SUBCOMMITTEE ON ENERGY AND POWER
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE
UNITED STATES HOUSE OF REPRESENTATIVES

WASHINGTON, D.C.
APRIL 5, 1976

My name is William W. Lindsay. I am Assistant Chief, Office of Economics, Federal Power Commission. For a period of about 11 years until July 1975, I served as Chief, Division of Rates and Corporate Regulation, Bureau of Power.

My statement concerning H.R. 12461 will be confined to three sections of the bill relating to wholesale electric rate regulation: Sections 303, 304, and 307. 1/

Section 303--Continuance of Service

This section of the bill would make three changes in the present Section 202(c), the emergency section, of the Federal Power Act:

(1) It would give the Commission the authority to order, under conditions of emergency, "pooling, coordination, wheeling or other transmission service" in addition to its present authority to order "such temporary connections of facilities and such generation, delivery, interchange or transmission of electric energy as in its judgment will best meet the emergency and serve the public interest." While I see no objection to inclusion of this language, I do not believe that it would add to the Commission's present authority under the Act, since I see

1/ The views expressed in this statement are those of the author and do not necessarily reflect the views of the Federal Power Commission or any of its members.

nothing inherent in "pooling, coordination, wheeling or other transmission service" that is not already contained in "connection of facilities...generation, delivery, interchange or transmission of electric energy." If, however, there is any difference, I would support the inclusion since I believe that the Commission should have full authority to deal with emergencies of the types outlined in the Act.

(2) The bill would strike the word "temporary" in the first sentence of Section 202(c) as modifying the "connections of facilities" that the Commission may order. Presumably, this would broaden the Commission's authority such that under Section 202(c) it could order not only temporary connections for the duration of the emergency, but also connections that would continue to be required beyond the duration of the emergency. If so, it would enable the Commission to order such connections of facilities "either upon its own motion or upon complaint with or without notice, hearing or report." 2/ It would therefore extend the

2/ This authority is not limited to "public utilities," but extends to publicly-owned and cooperatively-owned utilities as well. See Commission Order No. 520, issued November 29, 1974 in Docket No. RM75-3, p. 11.

Commission's power beyond that now contained in Section 202(b) since under the latter section it can only order an interconnection "upon application of any State Commission or of any person engaged in the transmission or sale of electric energy and after notice to each State Commission and public utility affected and after opportunity for hearing...."

In addition, it should be noted that Section 202(d) also deals with temporary connections during the continuance of an emergency and, in effect, provides that a person making such temporary connections, and not otherwise subject to Commission jurisdiction, would not thereby become jurisdictional. Presumably, a nontemporary connection ordered by the Commission under 202(c) could enable the Commission to assert jurisdiction where it did not have it before. This would not be possible under 202(b), which limits the Commission to directing "public utilities" to interconnect.

If the removal of the word "temporary" would have the effect described above, I do not think the change should be made. I do not think the Commission should be empowered to

order permanent interconnections of facilities without notice and opportunity for hearing.

(3) It would insert a new sentence after the first sentence of Section 202(c) as follows:

The Commission shall require, in order to insure continuity of service to wholesale customers, each public utility to report promptly any anticipated deficiency of power which would affect the utility's capability of serving its wholesale customers, and may (1) require by order the utility to accommodate such deficiency in a manner which affects the retail customers of the utility and the retail customers of the utility's wholesale customers in an equal and nondiscriminatory manner and (2) require by order such connections of facilities and such generation, delivery, interchange, transmission of electric energy, pooling, wheeling, or other transmission service as in its judgment will best serve the public interest.

This appears to be an effort to deal with cases of anticipated power deficiencies in such manner as to avoid discrimination as between a utility's retail customers and the retail customers of the utility's wholesale customers. This provision seems to me to be commendable and worthy of support. There are, however, two points that should be noted:

(i) The inserted sentence deals only with "public utilities" whereas the balance of Section 202(c) has been interpreted

to cover a broader group including publicly-owned and cooperatively-owned systems. Some confusion might therefore be avoided if the sentence were put into a separate section of the Act.

(ii) The term "wholesale customers," which appears in several places in the sentence, is not defined in the bill. Section 201(d) of the Federal Power Act, however, states: "The term 'sale of electric energy at wholesale' when used in this Part means a sale of electric energy to any person for resale." Thus "wholesale customer" could be interpreted to include a large "public utility" that merely buys a little emergency energy or economy energy occasionally from the selling utility. If that were the proper interpretation, the bill could impose an exceedingly large and complex burden on The Commission. If, on the other hand, the sentence is intended to be limited to wholesale customers that purchase all or most of their power requirements from a bulk power supplier in the form of firm power for resale, the concept of "wholesale customer" should be carefully limited.

Section 304--Prohibition on Pendency
of Cumulative Rate Applications

This section provides for amendment of Section 205(e) of the Act by adding the following:

A public utility may not file a schedule which seeks to increase a rate or charge so long as the Commission has pending before it for final determination any schedule previously filed by such public utility.

Such a provision reflects an understandable concern for the succession of wholesale rate increase proposals filed with the Commission in recent years. Table 1 summarizes the formal electric rate proceedings pending before the Commission from FY-1970 to the end of December 1975. It will be noted

Table 1

Formal Wholesale Electric Rate Cases
FY-1970 Through December 31, 1975

<u>FY</u>	<u>Pending- Start of Year</u>	<u>Received During Year</u>	<u>Disposed of During Year</u>	<u>Pending- End of Year</u>
1976 (6 mos.)	179	79*	29*	229**
1975	135	114	70	179
1974	97	76	38	135
1973	60	57	20	97
1972	43	24	7	60
1971	28	23	8	43
1970	28	7	7	28

* For 6-month period ended December 31, 1975.

** As of end of December 1975.

that the number of pending cases has increased over eight-fold during this five and one-half year period. If consideration is limited to rate increase cases, the picture darkens further. At the end of FY-1970, there were six such cases pending, aggregating \$3,600,000 in proposed increases. As of the end of December 1975, there were 118 cases pending, aggregating \$600 million in proposed increases. Some appreciation of the significance of the \$600 million figure may be gleaned from the fact that it is more than 40% of the total revenue (\$1.4 billion) that was collected by the privately-owned sector of the electric power industry from sales for resale in 1970.

The unprecedented growth in electric rate proceedings is partly the result of the fact that a good many companies have so-called "pancaked" rate increase proposals pending. To appreciate the meaning of this, a brief review of the provisions of the Federal Power Act relating to proposed rate increases may be helpful. A public utility seeking a rate increase must file its application in accordance with the Commission's Regulations not less than 30 days prior to the time it proposes to make the increased rates effective.

Depending upon the specific circumstances, the Commission may then accept, reject, or suspend the proposed increase. If, as has been typical, it suspends the increase, the period of suspension may vary from one day up to a maximum of five months. During the suspension period, the old rates remain in effect. At the end of the suspension period, the proposed rates go into effect subject to refund with interest which is currently at the rate of nine percent. If after hearings the Commission fixes a rate below that proposed, refunds with interest are ordered for the period during which the higher rates were in effect. "Pancaking" occurs when the utility files for a new rate increase prior to the issuance of a Commission order disposing of an increase proposed earlier.

At the present time, there are about 15 companies that have pancaked rate schedule filings pending before the Commission. In several instances, the pancaking has proceeded beyond the second level. One of the more unfortunate examples of pancaking is to be found in the case of the New England Power Company which has four rate increases currently pending, as follows:

<u>Rate No.</u>	<u>Docket No.</u>	<u>Date of Commission Suspension Order</u>	<u>Proposed Increase</u>	
			<u>Amount</u>	<u>Percent</u>
R-7	E-8251	7-30-73	\$12,500,000	5.8
R-8	E-8641	3-29-74	39,700,000	10.4
R-9	E-9140	12-31-74	25,300,000	5.1
R-10	ER76-304	12-31-75	28,600,000	6.0

Pancaking, of course, results from extended regulatory lag in circumstances of rapidly increasing costs. Some of the unhappy results are as follows. First, the wholesale customer does not know until the cases are decided what the final prices of his power purchases are. He therefore must either charge his own customers rates based on the rates he is paying with a view to passing on such refunds as he gets, or attempt to charge rates based on his best guess as to what the price of wholesale power will turn out to be. To do the former, he may find it necessary to raise rates to such a level that usage by his customers is affected and he thereby risks failure to meet his revenue requirements. In addition, he must then incur the cost necessary to assure a fair distribution of refunds among his own customers. To do the latter, he risks making a bad guess as to what the final

wholesale price will be. Second, the wholesale customer finds himself, in effect, making an involuntary loan to the selling utility at whatever rate of interest is deemed proper by the Federal Power Commission. Third, the wholesale customer may find himself not only in continual, costly litigation, but in several pieces of litigation at the same time.

The public utility may also be disadvantaged by pancaking increases. Its proposed increases in revenue are subject to refund of an amount that is unknown until the Commission decides the several rate cases. This may adversely affect its ability to raise new capital and may increase its cost of capital. It, too, faces the problem of continued, costly, multiple litigation.

Finally, to the extent that consumers are charged something other than the appropriate price for electricity for extended periods of time, they are receiving the wrong price signals which may not only result in resource misallocation but also may increase the difficulty of forecasting loads and planning facilities for the future.

Having listed the unfortunate results of extended regulatory lag and the pancaking of rate increases that

accompanies it, I must nevertheless state that I do not believe Section 304 is a desirable means of dealing with the problem. The reason is that under conditions of rapidly rising costs, an electric utility must have the opportunity to try to keep its rates abreast of its costs. To the extent that it fails to do this, resources are misallocated and the utility's financial condition may deteriorate, causing its cost of capital to rise and its ability to raise new capital to be impaired. In a period of rising costs, Section 304 would put the utility at considerable disadvantage to the extent that there was any lag in moving proposed rate increases to conclusion. At the present time, it is not at all uncommon for fully litigated cases to require two or three years between the time of filing and the issuance of a final Commission order. During the period 1972 through 1975, fully litigated cases required an average of two and one-half years. Section 304 would probably have the effect of increasing any incentive the wholesale customers might have for delaying the progress of rate cases.

Efforts to avoid the disadvantageous results of regulatory lag and pancaking of rates should be aimed at reducing the regulatory lag rather than at the resulting pancaking of rate increases. Some of the means available for this purpose include: (1) greater specification of filing requirements, (2) streamlining of hearing procedures, (3) generic proceedings and rulemakings dealing with specific recurrent issues.

(4) strengthening of staff, (5) facilitation of settlements where possible, and (6) specification and clarification of policies and precedents.

The language of Section 304 would, perhaps unintentionally, go beyond the prevention of pancaking of rate increases for it would not permit a rate increase to be filed so long as the Commission had before it for final determination "any schedule previously filed" (emphasis added) by the public utility. Thus, if the Commission for one reason or another had pending before it an action to make some minor change in a rate schedule, such as a technical change in the method of determining "billing demand," the utility could not file an increase until the Commission issued a final determination of the technical issue which might involve very little change in revenue or in fact might involve a decrease. Further, a proposed increase in rate to, say, a set of municipal customers could not be filed even if the rate schedule pending before the Commission involved an entirely different service to an entirely different set of wholesale customers such as a short term power rate to large, fully integrated public utilities. If the intent of the bill is merely to prevent pancaking, language changes could easily be made to rectify these difficulties.

Section 307--Unfair Methods of Competition

This section provides that whenever the Commission finds, after opportunity for hearing, that a public utility is engaging in unfair competition or has filed a rate schedule that would result in unfair competition, it shall prohibit such unfair competition or reject such filing.

The Commission has asserted considerable authority under the present Act to deal with cases of allegedly unfair competition. It has, for example, forced the deletion of restrictive provisions and dual rates from rate schedules. It has made clear that it will take anticompetitive consequences into account in passing upon proposed mergers. It has set hearings on many complaints by small systems alleging anticompetitive behavior on the part of neighboring large systems in refusing to enter into coordination agreements on terms sought by the small systems. In addition, the Supreme Court has held that the Commission, as a general rule, must consider allegations of anticompetitive consequences of securities issuances proposed under Section 204 of the Act.

The Commission has, however, taken the position that there are cases involving possible anticompetitive issues that it has no jurisdiction to hear or authority to remedy. One prominent example of such a case is Conway Corporation, et al. v. F.P.C. In that case, intervenor municipal and cooperative wholesale customers had alleged that the utility's proposed wholesale rate increase represented "an attempt to squeeze petitioners or some of them out of competition and to make them more susceptible to the persistent attempts of the company to take over the publicly-owned systems in the state," and asked that the Commission reject the increase. In denying intervention on this question, the Commission referred to an earlier order 3/ which sets minimum standards that a petitioner must meet to obtain a hearing on anticompetitive issues. Such standards require that the petitioner clearly specify: "(1) the facts relied upon, (2) the anticompetitive practices challenged, and (3) the requested relief which is within this Commission's authority to direct." The Commission held that petitioners had failed to meet the third criterion. Its 3/ Indiana and Michigan Electric Company, 49 FPC 1232 (1973).

reason was that the "price squeeze" was alleged to be in the form of a higher rate charged by the public utility to its wholesale customers than to its industrial customers which allegedly impaired the ability of the wholesale customers to compete for industrial business. It characterized the relief suggested by the customers as "a rate related not to wholesale costs but rather related to [the utility's] industrial rates," which are not subject to Commission jurisdiction. The D.C. Circuit Court of Appeals reversed the Commission, but the Supreme Court has granted certiorari.

It follows from the foregoing that while the Commission has authority to weigh certain allegations of anticompetitive effects, and is indeed required to do, Section 307 would probably expand that authority. While one could hardly disagree with the proposition that unfair competition should be prevented, there is one point that should be noted. The bill provides that if the Commission finds that a public utility has filed any contract, agreement, tariff or schedule which would result in unfair competition, it should reject the filing. The Commission, however, is

normally required to act on a rate schedule filing within a time frame that is much too short to permit an opportunity for an evidentiary hearing prior to taking action on the filing. To reject the filing after it has been in effect for a period of time could cause undue hardship to the utility, its wholesale customers or both. Rather than require rejection of the filing, it would be preferable to authorize the Commission to direct the public utility to make such changes in the filing as will eliminate the unfair competition.

STATEMENT OF RICHARD L. OLSON, ATTORNEY,
BOARDMAN, SMITH, CURRY & FIELD
MADISON, WISCONSIN

Hearings before the Subcommittee on Energy and Power of the
Committee on Interstate and Foreign Commerce
April 5, 1976

Thank you, Mr. Chairman, for the opportunity to appear before the subcommittee to present testimony on the subject of electric utility rate regulation.

My particular interest is in the regulation of wholesale electric rates to small publicly owned systems, and in the opportunity for such systems to find alternate sources of supply.

I have previously testified on the subject of regulatory reform before the Senate Committee on Government operations. A copy of that statement, which presents in detail some of the problems of municipal systems with respect to FPC regulation, is attached to this statement as Appendix A.

To that discussion I wish to add some comments on issues raised in H.R. 12461, especially Title III.

Section 304 would help to lessen the impact of pancaking rate cases. An even better solution to the problem would be enactment of Section 4 of H.R. 12608 which would not permit a rate to go into effect until after hearings are completed. To illustrate the problem: several months ago we settled a case involving Wisconsin Power and Light Company. The settlement involved reducing a requested \$5 million rate increase to \$4 million. The commission has not yet approved the settlement, which means that the municipals continue to pay excessive charges at the rate of \$1 million per year. In the meantime, WP&L has filed for another \$4 million increase and the commission allowed it to go into effect March 2, 1976 subject to refund. On its face, this latest increase is not justifiable. For WP&L to prevail, the FPC must allow a 25% increase in return on equity and reverse its position on several issues.

Someday, of course, the old settlement will be approved and more than \$1 million returned with interest. Sometime later, another amount in the millions will be paid back, with interest, from the new rate case. By that time, WP&I will have filed for another \$4 or \$5 million increase -- which the cities will pay no matter how exorbitant, subject to refunds, after a brief suspension period. The end result is that the cities are always paying too much. Their rates, in turn, are always too high, putting them at a serious competitive disadvantage with respect to rates.

In other words, whether the supplier wins or loses the rate cases, the timing and magnitude of the filings, always allowed speedily to go into effect by the FPC, keep municipals at a continuing disadvantage.

Section 305 provides a useful limit on adjustment clauses, but the section should be limited to fuel to avoid an inference that labor, tax and other adjustments all permissible.

Section 306 is necessary to avoid forcing municipals seeking their own generation to pay for plants they will never use. CWIP in the rate base would be a serious deterrent to developing alternate sources of bulk power supply. Furthermore, it would permit the private utilities to raise rates significantly on the basis of speculation as to construction in projected test years. The temptation to overestimate at the expense of municipals would be irresistible.

Section 307 is needed to require the FPC to eliminate unfair and anti-competitive practices. The most glaring inequity now facing municipal systems in Wisconsin is the "price squeeze." Wholesale rates for most Wisconsin utilities are higher than retail rates to large industrial customers. Not only are they lower on a unit cost basis, but the rate design of the two rate structure makes it impossible for a municipal to compete for new demand metered customers, or to retain all of its old customers.

For some specifics about the price squeeze, and other problems, there are attached to this statement the petitions to Intervene and petitions for rehearing in FPC Dockets ER 76-303 (Wisconsin Electric Power/Wisconsin Michigan Power) and ER 76-305 (Northern States Power.) (Appendices B,C,D and E.)

For a more graphic illustration, consider the case of one of the Wisconsin cities buying from NSP. In the city there is a feed mill. The feed mill company also has a mill in a nearby city where NSP provides retail service. When the latest increase went into effect, the municipal utility rate to this customer more than doubled. As a result the miller now finds it more economical to transport grain from the city served by the municipal utility to the city served by NSP and have all the grinding done in that city. The municipal system has, for all practical purposes, lost a customer to its wholesaler/competitor. Something must be done to correct this inequity.

Because of the serious problems now faced by municipal systems purchasing all power requirements under rates "regulated" by the FPC, municipal systems increasingly are turning to joint action to furnish their own power supply. The only way this alternative can be made feasible is through assurances of reasonable participation rights, transmission rights, interconnections, reserve sharing, etc. from the private companies. For this reason, sections 301-303 or H.R. 12461 are extremely important. They are important for the investor owned segment of the industry too, because by permitting municipals to supply their own needs, the capital demands on private utilities will be reduced.

I have no comments on H.R. 2633 except to say that I disagree with most of its provisions for the same reasons I would support Title III of H.R. 12461.

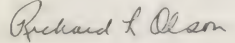
I have also reviewed H.R. 12608 introduced recently by Mr. McFall. The bill shares, in somewhat different language, the virtues of Title III of H.R. 12461. My clients would support either bill.

These are the provisions of most direct interest to me. I would be happy to answer questions about the provisions discussed here today -- or other parts of the bills not so discussed. I would note in passing that \$500,000 in 1978 and \$2,000,000 in 1979 for representation of consumer interests won't pay for many cases. It is not uncommon, when the stakes are high, for a rate case to

cost the municipal system well over \$100,000 in witness and attorneys fees (mostly expert witnesses). \$2,000,000 annually will not pay for all of the contested FPC cases.

Thank you for listening. This has been short and perhaps hard to follow because of reference to appendices. I would, however, attempt now to answer any of your questions.

Respectfully submitted,



Richard L. Olson

Statement of Richard L. Olson

To be presented to the Senate
Committee on Government
Operations
December 5, 1975

1. INTRODUCTION.

For the past 15 years, a growing part of my law practice has consisted of representing municipally owned electric utilities in formal and informal proceedings before state and federal regulatory agencies. In the last 4 years, rate cases before the Federal Power Commission have absorbed a distressingly large part of my life.

In the last few months we have settled cases involving applications for rate increases with all of the major wholesalers in Wisconsin: Wisconsin Electric Power Company (WEP), Wisconsin Michigan Power Company (WM), Wisconsin Public Service Corporation (WPS), Wisconsin Power & Light Company (WP&L) and Northern States Power Company, Wisconsin (NSPW). The Commission has not yet approved any of the settlements, although some are several months old.

Nevertheless, within the last few weeks, all of them have filed for new increases:

	<u>Amount requested</u>	<u>% increase</u>
9/22/75 WPS	\$1,186,277	22%
11/26/75 WPL	\$4,075,889	18.3%
11/28/75 WEP/WM	\$3,443,689	26.3%
12/01/75 NSPW	<u>\$1,128,000</u>	<u>26%</u>
	\$9,833,855	21.8% wt. av.

These substantial increases in every case follow closely upon a series of substantial increases. For example:

Wisconsin Public Service Corporation

E-7627 - filed April 24, 1971			
Av. cost per KWH in TY 1970	1.134¢		
increase requested	\$606,728	28.5%	
settlement	410,000	19%	
E-8157 - filed April 24, 1973			
Av. cost per KWH in TY 1972	1.444¢		
increase requested	\$300,427	9.9%	
settlement	226,000	7.4%	
E-8867 - filed June 24, 1974			
Av. cost per KWH in TY 74-75	1.749¢		
increase requested	\$1,116,306	27.9%	
settlement	773,271	19.3%	
ER 76-150 - filed Sept. 22, 1975			
Av. cost per KWH in TY 75-76	2.308¢		
increase requested	\$1,186,277	22%	
av. cost per KWH proposed	2.819¢		

Until December 1, 1971, the average cost of power for the municipal customers of WPS was 1.134¢/KWH. The filing in ER 76-150 requests an effective date of November 25, 1975, and, if the FPC follows true to form, it will be granted. If so, the cost to the municipals will have gone from 1.134¢ to 2.819¢/KWH or 148.6% in the space of 4 years! In addition these municipals are now organizing for exhausting and expensive rate litigation for the 4th time in as many years.

I observe two general reactions to this situation: First, the process does not seem to satisfy anyone, but the municipal customers are especially skeptical whether anyone in Washington has any interest in protecting the consumer in this kind of proceeding; Second, municipal utilities must find another way to stabilize

their costs and protect their own interests. In Wisconsin, municipal utilities have begun in earnest a program intended to free them from customer status and from F.P.C. determination of their major costs. In short, they will seek to become owners of their own generating facilities.

Ownership, of course, is a distant remedy, and in the meantime they must cope with immediate problems. In this connection a recent publication by the Wisconsin Public Service Commission is revealing. Bulletin No. 8 lists net operating revenues for electric utilities in Wisconsin as follows:

	<u>1972</u>	<u>1973</u>	<u>1974</u>
Private	112,246,986	130,596,584	132,753,227
Municipal	3,273,898	3,754,209	614,951

So who is in trouble? From 1973 to 1974 private utilities managed to continue the increase in their net, this time by a modest 1.6%, while municipals were dropping by 84%. Part of the answer to the discrepancy, inconsistency between federal and state regulation, will be explained later.

2. THE CAST OF CHARACTERS.

Statistics can be both misleading and dull. Nevertheless, some figures are important as a basis for what I have to say this morning.

There are 85 municipally owned electric utilities in Wisconsin.

In 1974 these 85 utilities accounted for:

7.36% of all electric revenues	<u>\$56,358,786</u> <u>\$765,974,369</u>
0.47% of all net electric revenues	<u>\$621,451</u> <u>\$131,234,673</u>

9.2% of all KWH sold	2,676,920 MWH
	<hr/> 29,026,069 MWH
9.9% of all customers	159,573
	<hr/> 1,616,004
2.3% of all generation	680,021 MWH
	<hr/> 29,409,450 MWH

Sixty-five of the municipals purchase all of their power; 81 purchase most of it; only 4 generate substantially all of their requirements.

KWH sales for the whole group of 85 are only 1/5 those of WEP, 1/2 those of WP&L or 3/5 those of WPS.

The averages for municipal utilities in Wisconsin in 1974 are:

	<u>85 municipals</u>	<u>65 wholesale purchasers</u>
Gross revenues	\$663,045	\$527,444
Net operating revenues	\$7,311	\$12,971
MWH sales	31,493	25,500
Customers	1877	1612

Of the 85 utilities, 65 purchase substantially all of their requirements from 6 utilities subject to FPC jurisdiction. The others either generate or purchase from paper companies or cooperatives. One of the 6 sellers has only one customer and 2 are a parent and its subsidiary which now file rate applications jointly. Thus, as a practical matter, the rates of only 4 systems are being regulated by the FPC in Wisconsin. The volume of sales of the 65 purchasing municipal utilities was 1,645,255 MWH in 1974. Of sales in Wisconsin totaling 29,026,089 MWH that year,

this means only 5.7% were subject to FPC jurisdiction.

The significance of all this is:

- (1) The Federal Power Commissions consumer constituency in Wisconsin consists primarily of about 65 very small municipal systems and a few cooperatives.
- (2) The industry to be regulated in Wisconsin consists primarily of 4 large utility systems.
- (3) The Federal Power Commissions jurisdiction in Wisconsin extends to only 5.7% of total electric sales.

These statistics for Wisconsin are fairly representative. On a national basis, FPC jurisdiction extends only to approximately 10% of all electric energy sold. The first two points are significant when considering the balance of power involved in a rate case before the FPC; the third is relevant when considering the significance of the FPC as an instrument of effecting economic, environmental and energy policies of the electric utility industry in the United States. The FPC is not where the action is in electric utility regulation. Most sales are regulated by states, municipalities or no one.

Any effort at reform of electric utility regulation at the federal level must first recognize the nature of the consumer being protected, the industry being regulated, and the limited scope of the regulator. With some notable exceptions, the consumer generally is small, unorganized, understaffed, in present financial difficulty, and not just a little bit intimidated by the volumes of documents in an application, the somber and officious notices

and orders, and the fact that all of this ponderous business can only take place in Washington. In short, the consumer is a little guy.

The regulated industries, by contrast, are giants. WEP alone sells 5 times as many KWH's as do all the municipal utilities in Wisconsin combined. Most of the opposite adjectives apply. They are large, well-staffed and familiar with the process.

The regulator is like a doctor whose practice is limited to the little toe, but who tries to cure a low back pain by prompt, generous and innovative treatment of the toe. So long as 90% or more of the electric utility body politic is off limits to the FPC, any White House sponsored economic medicine through it may give symptomatic relief to the patient but may also kill his customers.

3. THE PROBLEMS OF A SMALL MUNICIPAL ELECTRIC UTILITY; ONE DAY SUSPENSIONS.

The FPC has authority under the Federal Power Act to suspend a proposed rate for from one day to 5 months and then allow it to go into effect subject to refund. Until 1973, most suspensions were for 5 months. One day suspensions were rare. During 1973 there were several 60 and 90 day suspensions. Starting in the last quarter of 1973, and continuing until recently, virtually all filings were suspended for one day. It seems obvious that this was a policy decision, but it was never announced or explained, and there was no forum to debate the issue successfully. This appears to be further evidence of the FPC responsiveness to administrati

pleas for aid to the electric utility industry. The exercise of unfettered and unchallengeable discretion to allow an increase immediately rather than 5 months hence, is a cheap, easy and safe way to respond to Executive branch imperatives. It is also possible that this series of automatic one day suspensions is based on some intelligible and supportable economic policy. But if so, why has the Commission been so loathe to provide an explanation?

This policy creates two very serious problems for municipal electric utilities. The first arises from the speed and magnitude of the increases. Many of the filings by Wisconsin utilities in the last 2 years have purported to be 30 to 40% increases. In fact, because of some changes such as altering the method of calculating a fuel clause adjustment, many of the municipal utilities have experienced 50 to 60% increases. Some of the current filings are introducing new concepts of rate design which sharply distort the application of the increases to different customers. These too may have the effect of increases, again, in the 50% range.

For purchasing utilities, the cost of power represents 70 to 80% of the total cost of service. Thus, these rate increases have increased the total cost of service in some cases by 30 to 40%. And with one day suspensions these staggering increases can occur 31 days after filing! No privately owned electric utility has experienced dramatic increases like that.

A resulting problem involves the time it takes to increase

rates to the municipal utility customers to avoid serious loss. In Wisconsin, the retail rates of municipal utilities are regulated by the Public Service Commission and cannot be raised unilaterally. Rate increases may go into effect only after a public hearing. Obviously, 31 days is not enough time for a hearing, especially where increases may affect up to 65 municipals at the same time. The Wisconsin Commission has permitted the use of a purchased power adjustment clause in an attempt to avoid a hiatus between the wholesale and retail rate changes. Unfortunately, the solution has not proved to be fully effective. When it is not effective, the municipal loses money, and continues to lose money until there can be a hearing and order. Remember the net operating revenue figures discussed earlier? From 1973 to 1974 net revenues for private utilities increased by 1.6% while those for municipal utilities dropped 84%. Being caught in between wholesale costs which can zoom up 50% in 31 days and sales prices which may not be fully adjusted for months is a major reason for the decline in municipal revenues.

This regulatory trap is especially serious with the filings now being made. WPS has told the Wisconsin Commission that it cannot implement time of day (TOD) rates for residential customers until 1977. Implementation as to other classes of customers depends upon the availability of metering. Yet WPS, on September 22, 1975, filed with the FPC for a rate increase and proposed TOD rates for its municipal customers. Presumably, those rates will go into effect for municipals with the usual unseemly haste.

And where do the municipals find the metering for their residential and commercial customers which WPS can't find yet for its retail customers?

Another element of the recent filings is the dramatic shift to single block and presumably fully cost related demand and energy charges. For example, in the November 28, 1975 filing by WEP/MW the demand charge was raised from \$2.32 per KW on the first 2500 KW of billed demand and \$1.80 per KW for all demand over 2500 KW to a new proposed rate of \$6.70 per KW. The energy charges decrease to a flat .942¢ per kilowatt hour. In addition, a 70% demand ratchet relating to the prior 11 months is added.

The effect of this on municipal utilities can be quite drastic. Naturally, in designing rates for its customers the municipal utilities employ the cost relationships that appear in their wholesale power bills. Thus for a demand and energy metered customer the demand portion could be priced commensurate with the \$2.32/\$1.80 figure in the municipal utility's costs. Now suddenly a kilowatt of demand is going to cost \$6.70. Immediately there will no longer be a tracking of cost of service to the municipal utility's customers. This will make a substantial difference depending upon whether the customer has a high or low load factor. In order to restore proper relationships the utility will have to change its rate design for retail customers. This cannot be done through the mechanism of a purchase cost adjustment clause and can only be done through a formal rate

proceeding. At the moment the Wisconsin Public Service Commission is inundated with rate cases. The prospect of any municipal utility expediting a change in rate design for its retail customers to resolve the problem that will be created by the Wisconsin Electric Power filing is remote at best. In the meantime, even if the purchased cost adjustment clause aids in partially offsetting the loss of revenues, a surcharged customer picking up an excess cost now properly allocable to low load factor demand metered customers, may successfully charge that the existing rate structure is discriminatory and seek refunds for excess charges.

When considering the series of problems which I have discussed so far and others which I may not have time to get to, an uneasy thought occurs. There was a time in the not too distant past when privately owned electric utilities made it an avowed practice to seek the elimination of municipally owned systems from the electric utility industry. (Consider for example the evidence concerning "municipal acquisitions" in the series of cases involving Elbow Lake, Minnesota and Otter Tail Power Company). Municipal acquisition was a policy actively pursued by Wisconsin utilities until fairly recently. We have been advised that this is no longer true and indeed there has been little evidence of buyout efforts in recent years in this state. It would be naive, however, to assume that the thought has disappeared entirely. In this connection, one must wonder whether the energy crisis, inflation, regulatory lag and environmental concerns have come together to create a situation today which is so perilous for municipal electric utilities that privately owned utilities by simply doing what is legal, economically valid, and sanctioned by environmentalists

may acquire municipal systems by default. In the current series of filings involving Wisconsin utilities, if the FPC does not grant five month suspensions, if the Wisconsin Commission does not with considerable dispatch aid the municipal utilities in restructuring their rates, and then if some of the excesses of the filings are not modified by the Commission in the rate proceeding, many Wisconsin municipal utilities, already in financial difficulty, may come under extreme pressure to sell out to private power companies.

One other factor comes into play. For some inexplicable reason the Wisconsin Public Service Commission, while allowing up to 12% on equity to privately owned electric utilities, has steadfastly maintained for at least 15 years despite inflation, changes in municipal bond rates, and various other factors, that the rate of return to a municipal utility shall not exceed 6%. Where a 6% return is the maximum allowable, a municipal utility's cushion against economically difficult times is very thin indeed.

The one day suspension problem must be resolved. We recognize that undue delays may create economic hardship for the selling private utility, just as we have already pointed out the economic hardship that a one day suspension imposes on the buying municipal utility. Nevertheless, there must be an acceptable compromise. A method which has emerged in Wisconsin Public Service Commission proceedings commends itself. Under Wisconsin procedure there can be no rate increases until after a hearing. Major rate cases

customarily take a year or more. However, what ordinarily happens is that an abbreviated hearing is conducted very soon after the filing for the purpose of determining whether an interim increase should be allowed immediately. If, for example, in a prior proceeding the Commission has allowed the company to earn 12% on its equity and in fact it has earned only 9%, the Commission has been allowing, on an interim basis, rates sufficient to make up that deficit. The interim increase is usually applied in the form of a surcharge so that no sharp changes in rate design or the relationship between classes occurs. The permanent increase and changes in rate design must then await the outcome of further and more complete hearings. The use of an interim order provides prompt and usually reasonable increases to offset deterioration in earnings, but major changes, such as where the company asks for a higher rate of return or a different rate design, are fully heard before allowed to go into effect.

While there may be flaws in such a system it would be a vast improvement over the present practice of the FPC.

One final note on FPC procedure. Presumably the FPC deems it sufficient protection for the municipal utility that it provides for a refund plus interest if the final decision is that the proposed rate is excessive. This is no solution. Obviously it cannot do anything for the change in rate design problem. Further the interest rate allowed is substantially below the company's cost of capital and the allowance for refund may simply

encourage excessive requests as a source of cheap funds. Furthermore, refunds frequently must be passed back to the municipal utility's retail customers. While it is a simple matter for the private utility to keep records of payments to 10 or 20 wholesale customers, the municipal utilities face the problem of paying refunds to Hundreds or maybe thousands of small retail customers. The logistics of such refunds make the refund solution very unattractive for municipals.

4. OBSERVATIONS CONCERNING SUGGESTIONS IN SENATE RESOLUTION 71.

Paragraph (8) of Senate Resolution 71 asks that you evaluate a series of proposals. Since many of them highlight problems and concerns that I've experienced in practicing before the Federal Power Commission I would like to comment briefly on a number of them.

(A) Enunciation of Broad Policy Guidelines. The theory, I suppose, is that the Commissioners can make broad sweeping judgments on matters such as the use of tax accrual offsets against cash working capital and thus avoid litigating that issue in each case. While this has some superficial attraction, it reveals the flaw of failure to comprehend the nature of the customer being protected. The consumer is a small municipal system without a staff of economic and regulatory consultants and in which no one reads the Federal Register. In the State of Wisconsin in the last ten years I have been very proud to be part of the responsive and cooperative effort of municipal utilities to oppose rate

increases. They have fought them all and they have been very successful. However it is one thing to join together under the threat of a five million dollar rate increase and quite another to consider sending someone to Washington to testify on a proposed rule change, such as one relating to construction work in progress.

Someone on this Committee ought to read one of the typical FPC announcements of a proposed rule change. They are certainly not written with the small town municipal utility manager in mind. Even if the notice is understandable, the issues are very often those which a cost of service consultant would be able to evaluate but this may not be true of the small municipal manager. He may not realize that a proposed policy decision will affect him somewhere in the future. Even if he does recognize the problem, it is often difficult to persuade the utility board to spend the kind of money it takes to send a lawyer or a consultant to Washington to testify on the matter. It has been my observation that many rule changes have taken place in the last few years that should have been opposed by every municipal system in the country but in fact have been opposed by none from Wisconsin, none from most of the states with small systems, but only by organizations such as American Public Power Association and by larger municipal systems. If major policy decisions are going to be made on an abstract basis and not as a part of a specific rate controversy a very important segment of those directly affected will not be there to be heard.

(B) More Independence From the Executive Branch. Yes. Amen.

(C) Single Administrator. If there are five commissioners the chances are five times as good that someone on that body will have some common sense and may even be interested in the consumer's point of view. I like that. If there were only one commissioner or administrator then I think of some past commissioners as being the administrator and I have to confess that I do not like it at all.

(D) Improved Procedures for Selecting Commissioners. This is very important. In the past 15 years the FPC has changed its character completely. In fact, it has done so twice. These changes relate absolutely to the kind of people who are appointed to the Commission. No agency as important and sensitive as this one should go through such gyrations. Right now if I had my choice between changing the Commission and changing Commissioners, I would change the Commissioners.

(E) Limit the Movement Between Agency and Industry. This should be done. One of the problems that we always face in dealing with the Federal Power Commission is the endless changes in personnel. It is not uncommon to deal with three or four different staff counsel in the course of one proceeding. It is especially disconcerting when you learn that a staff attorney has left the Commission to join the staff of a regulated utility.

(F) Paying Costs of Intervenors. No doubt the whole question of a public intervenor will be considered. In Wisconsin, the municipal utilities have been able to organize themselves for active and effective intervention. The interventions have been successful enough so that the savings have always exceeded the cost. However I suspect that this is not the case all over the

country. Also we are fortunate in Wisconsin in that there are sufficient numbers of municipals purchasing from each supplier to make the cost manageable for each participant. In the many cases where a wholesale supplier may have only two or three small customers they may be very much in need of a public intervenor or reimbursement of the costs of intervention.

(G) Substituting Direct Subsidies for Cumbersome Regulatory Schemes, Etc. One of the most distressing things about going through a rate case is the realization that the whole process is fundamentally dishonest. Utilities are required in effect to keep one set of books for tax purposes, another for rate purposes, another for shareholders, and probably a few others for good measure. A good example of the nonsense is the investment tax credit. Congress has granted utilities a 10% investment tax credit. In fact they do not need a tax break to encourage investment. Investment in a utility is made as a result of the requirement that they perform their utility obligation to provide service to the public. Nevertheless this substantial tax benefit is given. Congress also says that in fixing rates no regulatory body may behave as though the credit exists or else it will be taken away. As a result, in a rate case we go through the charade of including in the cost of service substantial expense for income taxes which everybody knows is not there.

The dishonesty is that if the company really should have more money, the rate of return should be raised and the shell game with taxes should be eliminated.

The Federal Power Commission is currently engaged in a whole series of these maneuvers. I suspect that the Commission would probably like to give a higher rate of return. But no one likes to be the bearer of unpleasant news. Instead what happens is that the rate base gets artificially inflated by, for example, decreeing that money that is there (tax accruals) will be treated as though it is not there so that it will not be seen to offset the need for working capital. I would prefer to purify the ground rules and let some common sense and logic prevail. After all the underbrush is cleared away, then let us determine an honest and realistic rate of return.

(H) Lessen Paperwork. If this committee finds a way to implement paragraph H in the form of legislation, and if an agency so mandated finds a way to carry it out, then all concerned should be granted sainthood.

However I would encourage you to try. To the fellow from a small town, the filing rules and the requirements for paper in an FPC proceeding are just incredible. The FPC requires that an original and 14 copies of most papers be filed with it. This seems most unreasonable. Why not require filing some reasonable number like 3 or 4 and then if the Commission finds it needs extra copies make the copies at the FPC. I have it on good authority that the Federal Power Commission has a few copying machines.

The movement of paper to, from, and within the Commission is also a source of considerable frustration to the participant in rate proceedings. A document may be "issued" from some office

in the FPC but may not reach the mailroom for several days nor reach the intended recipient until several days after that.

I have received a notice of time to intervene after the time to intervene had expired. By sharp contrast, something mailed from a lawyer's office in Madison, Wisconsin is not "filed" with the Federal Power Commission until it is received. One can never be entirely sure if anything ever is received down there much less when it is received unless sent certified-return receipt requested.

Elsewhere in the Senate Resolution there appears to be the suggestion of eliminating or limiting some regulatory agencies or some agency powers. While there are undoubtedly administrative agencies that we could learn to live without and while I have not been overly complimentary of the Federal Power Commission in this statement, I can not comprehend small municipal systems surviving without regulation. When viewed in that light I'm reminded of the well-known observation about old age. It is perfectly awful until you consider the alternative. And so it is with the Federal Power Commission. I don't like it very much these days but the alternative is unthinkable.

Respectfully submitted,

Richard L. Olson

Richard L. Olson
Boardman, Egan, Curry & Field
131 West Wilson Street
P. O. Box 927
Madison, Wisconsin 53701
608-257-9521

December 8, 1975
Rev. December 9, 1975

United States of America
Federal Power Commission

Northern States Power Company)
(Wisconsin)

Docket No. ER76-305

Petition for Rehearing by the cities and villages of Bangor, Black River Falls, Bloomer, Cornell, New Richmond, Spooner, Rice Lake, Westby, and Whitehall, Wisconsin (the "Petitioners")

On March 1, 1976, the Commission issued an order in the above docket entitled Order Granting Timely Petitions to Intervene and Denying Motion for Five Month Suspension Period (the "Order") which, inter alia, permitted intervention by the Petitioners in this proceeding.

On behalf of the Petitioners, we hereby petition the Commission to reconsider by rehearing the following portions of the Order:

1. Exclusion of "price squeeze" and anticompetitive conduct issues from the proceeding; and
2. Denial of the Petitioners' motion that the proposed rate increase tendered for filing by the company on November 28, 1975, be suspended for five months.

In support of this petition, we rely upon the following grounds:

Price Squeeze and Anticompetitive Conduct

1. The Commission has refused to consider the "price squeeze" issue despite the decision in Conway Corporation v. FPC, 510 F.2d 1264 (1975) because the mandate of the Court in Conway has been stayed pending a decision by the Supreme Court and because the Commission does not believe it has authority to deal with discrimination between the amount of a jurisdictional rate and a non-jurisdictional rate. We respectfully submit that the price squeeze of which the Petitioners complain is both different in degree and kind from the previous price squeeze issues which have been brought to the Commission's attention. The Commission's refusals to consider those issues does not mean that it must or should refuse to hear all aspects of the Petitioners' complaint of a price squeeze and of anticompetitive aspects of this filing.

2. In previous instances the discrimination involved was solely between the levels at which given wholesale rates were set in comparison to given retail rates. The Commission has refused consideration of such discrimination on the ground that it cannot determine the reasonableness of a wholesale rate by reference to a retail rate. This sort of blatant discrimination between rates exists and is exaggerated by the present filing and the Petitioners believe, along with the Court of Appeals for the District of Columbia, that the Commission has a duty to consider this fact in reviewing the rates initiated by NSP. However, NSP in the present filing has in addition proposed a rate design which will have substantial anticompetitive effects and which creates a new kind of price squeeze. This rate design is unnecessarily anticompetitive in that it abruptly and arbitrarily shifts the concentration of prices to demand.

The rates filed in this proceeding call for demand charges of \$6.96 per kilowatt per month for the first 200 kilowatts or less of billed demand and \$6.66 per kilowatt per month for over 200 kilowatts of billed demand. Upon information and belief, the demand charge in the current NSP large power rate is approximately \$2.50/KW with an 1800 KVA minimum of \$4,050. It is patently obvious that this difference in rate design places the Petitioners at a competitive disadvantage. How can the Petitioners attract or hold demand metered industrial customers if they must pay \$6.96 and \$6.66/KW in demand charges when their supplier/competitor (NSP) charges only \$2.50/KW?

Furthermore, each Petitioner must justify its rates on a cost of service basis. For demand metered customers the demand charge henceforth must be altered to adjust for the \$6.96 - 6.66 cost. No Petitioner presently has a demand charge for its retail customers even approaching this figure. To change the demand rate to be consistent with costs requires an application, hearing and order. It will be months before this can be achieved. Purchase cost adjustment clauses relate to the general level of rates and amount to a surcharge; they do not and cannot do anything about rate design.

3. Although the Commission may feel that it should not look at the levels of a company's retail rates to determine whether a given wholesale rate will yield a just and reasonable return on the investment required to supply wholesale customers, it does not follow that the Commission is barred from considering the anti-competitive effects of the proposed innovations in rate design. The Commission may determine the amount of revenue which must be raised by use of its own yardsticks and then require that this amount be raised through a rate design which will not have drastically anti-competitive effects on the electric utility industry as a whole. Such a requirement would obviously be in the public interest.

The consideration here requested in no way threatens the Commission's prerogative to determine whether the level of the wholesale rates requested is just and reasonable. For the Commission to shut its eyes to the anticompetitive ramifications of, and motives behind, the rate design proposed in this filing would be an inexcusable breach of the Commission's duty to regulate the sale of electric energy at wholesale in the public interest. See, Gulf States Utilities Company v. Federal Power Commission, 411 U.S. 747, 758. If the Commission refuses to consider this aspect of the Petitioners' claim of a price squeeze, it will be responsible for needlessly threatening the survival of the municipal customers of the applicant.

4. This filing contains claims that this Commission has rejected in the past. These include, for example, a claimed rate of return on equity of 15 percent. Nothing approaching this amount has ever been allowed by the Commission. Yet by its order, rates were permitted to go into effect March 2, 1976, which reflect this improper claim, and which on their face are excessive and cannot be sustained.

It is no answer to say there will be refunds of that excess. The Petitioners must pay these rates now. The proceeding could easily last one and one-half to two years before refunds are paid. During those years potential customers of the Petitioners will be making location decisions based on rates as they exist. The prospect of a future refund is not a strong selling point. The Commission's order, requiring payment of patently excessive rates during the proceedings places the Petitioners at a serious competitive disadvantage. The knowledge that the recent practice of this Commission has been to allow rates which are not sustained ultimately to go into effect speedily places an additional price squeeze weapon in the hands of the applicant: By continuously filing excessive rate requests, the applicant can force the Petitioners into a continuous competitive disadvantage. If an order or settlement ultimately requires a refund, all the applicant need do is promptly file for another excessive rate increase. Even though justice may ultimately be done, this does not wipe out the fact that from day to day by the timing and magnitude of requests, the Petitioners can be subjected to unnecessary economic hardship and placed at a competitive disadvantage. This aspect of a price squeeze is certainly within the power of the Commission to review and remedy. Also, allowing five-month suspensions would help soften the unfair advantage now employed by suppliers such as NSP in this proceeding.

Five-Month Suspension

5. The sixth paragraph of the Order indicates that the Commission decided to suspend the proposed rates for only two months without considering the motion of the Petitioners for a five-month

suspension. The order attempts to cure this defect by stating that the Commission reaffirms that decision and by asserting that the period of suspension is a matter of discretion not subject to judicial review. We trust that the latter justification does not mean that the Commission believes it can exercise its discretion arbitrarily or in a discriminatory fashion. Since we believe that an examination of the decision will indicate that the decision is both arbitrary and discriminatory, we believe a rehearing is required.

6. A blanket reaffirmation of a decision made without consideration of the Petitioners' arguments and at a time when the Commission was so overwhelmed with new filings that it could not possibly give ample consideration to the suspension issue should not be permitted to salvage that decision. Obtaining a five-month suspension is of vital interest to the wholesale customers the Commission has a duty to protect. At the very least the Commission owes the Petitioners a full rehearing on their request in order to fulfill its regulatory duty. The masking of a hasty decision behind a recital of an exercise of unreviewable expertise is not an acceptable discharge of the Commission's duty to protect the public interest.

7. In Docket ER76-149, filed at approximately the same time as the company's proposed increases, the Commission granted a five-month suspension to municipal interveners.

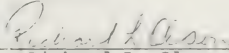
The Petitioners demand to know what differences justify granting them a shorter suspension than the interveners in ER76-149, and other dockets where more than 60-day suspensions have been granted within the last four months. They submit that in December and January of this year the Commission lacked the capacity to analyze thoroughly and individually the need for a suspension in each filing before it because of the multiplicity of such filings. Almost invariably these filings followed on the heels of rate increases some of which are not yet final. This circumstance demanded fair and consistent treatment of the wholesale customers affected by such rapid increases. We believe that the Commission should reconsider the rulings which it issued during that period and grant the Petitioners in this proceeding the maximum five-month suspension which it has seen fit to approve for others similarly situated. Such a suspension is especially necessary in this instance because of the effect on the Petitioners of the proposed innovations in rate design discussed in paragraph 2 of this motion.

8. The public interest demands that the proposed increases be very carefully examined and that everything possible be done to prevent or dampen the inflationary threat presented. The Petitioners stress the absolutely essential need they have for time in which to gain approvals necessary to adjust their retail rates. The company has the luxury of proposing rates at times of its own choosing, and can and certainly did take into account the possibility of a five-month suspension. In contrast, the

Petitioners have no control over when or how an increase will strike or how much time they will have in which to adapt or suffer. The Commission's response to requests for suspensions is unpredictable and its failure to set policy in this regard places an unfair burden on wholesale customers. This failure should be remedied on rehearing

Respectfully submitted,

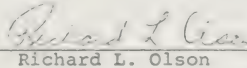
Cities and villages of Bangor,
Black River Falls, Bloomer, Cornell,
New Richmond, Spooner, Rice Lake,
Whitehall, and Westby, Wisconsin
By



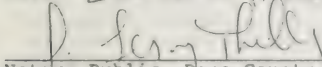
Richard L. Olson
Their Attorney

STATE OF WISCONSIN)
) ss.
DANE COUNTY)

RICHARD L. OLSON, being first duly sworn, deposes and says that he is an attorney licensed to practice law in Wisconsin; that he has been retained by the Petitioners to represent them on all matters relating to the proceedings in Docket ER76-305; that as attorney for the Petitioners he has signed the foregoing petition for rehearing for and on behalf of said parties; that he is authorized to do so; that he has read the said petition and is familiar with its contents; and that the matters set forth therein are true and correct to the best of his knowledge, information and belief.


Richard L. Olson

Subscribed and sworn to before me
this 22 day of March, 1976.


Notary Public, Dane County, Wisconsin.
My Commission is permanent.

UNITED STATES OF AMERICA
BEFORE THE FEDERAL POWER COMMISSION

Re: Northern States Power)
Company (Wisconsin))
Wholesale Rate Filing)

Docket No. ER76-305

PETITION TO INTERVENE
and
REQUEST FOR MAXIMUM SUSPENSION PERIOD

The cities of Bangor, Bloomer, Cornell, New Richmond, Spooner, Rice Lake and Westby, Wisconsin, pursuant to section 1.8 of the Commission's Rules of Practice and Procedure, through their attorney, petition for an order permitting their intervention in the above-entitled proceeding and suspending the proposed changes in electric service tariffs for the full suspension period. This petition is to supplement a telegram sent December 18, 1975, as an initial petition to intervene. A copy of the telegram was served that day on all parties in accordance with the Commission's Rules of Procedure. In support of this petition the municipalities respectfully show the following:

1. Each petitioner is a municipal corporation in the State of Wisconsin and each is a wholesale electric customer of the Northern States Power Company, Wisconsin ("NSP"), under rate schedules affected by the company's filing for rate increase submitted November 28, 1975, but dated December 1, 1975, and described in the Commission's notice of this proceeding dated December 4, 1975. This notice was received on December 16, 1975, by some petitioners, not at all by the management of several utilities, and counsel was not aware of the notice until 4:45 p.m., CST, December 17, 1975. We respectfully submit that this is insufficient notice in that there is no possibility of detailed expert review of the application in connection with a petition to intervene, and further in that most small municipal utilities cannot take official action on such short notice. For example, upon information and belief, the management of several other municipalities wish to intervene, but their governing boards do not meet to act officially on intervention until later this month or the first part of next month.

2. Each petitioner operates an electric distribution system serving customers at retail. Upon information and belief, each petitioner except Black River Falls purchases all or substantially all of the electrical energy requirements for its distribution system and for municipal use from NSP. The principal service area of each petitioner is its corporate limits and the immediate environs.

3. The petitioners each have a direct interest in this proceeding because they are customers to be affected by the proposed rate increases. The interests of the petitioners are not adequately

represented by any other party to the proceeding and each may be bound by a Commission determination as to the lawfulness of the rates and other matters contained in the application or arising out of any investigation related to the application.

4. This \$1,128,439 request, reflecting an alleged 26.6% rate increase follows in less than one year upon a \$1,103,275.53 request, reflecting a 39.33% increase which went into effect February 7, 1975, after a one day suspension. If allowed, the cumulative effect of the two increases would be an 80% increase over the rates in effect through January, 1975. Applicant seems to suggest a virtue in that it had not increased rates for municipalities for many years prior to 1975. Absent proof, one can only assume that the company's return heretofore has been deemed adequate. It is submitted that 80% rate increases within one year cannot be justified on any basis. If it suggests anything, it suggests questionable management which should not be rewarded with one day suspension of these iniquitous rates.

5. Petitioners reserve the right to question whether the municipal contracts fall within the protection of the Mobile Sierra doctrine.

6. In this filing NSP seeks a 15% return on common equity. This is unreasonable, unlawful and will result in unfair discrimination against the petitioners. The Federal Power Commission has not allowed a return for a comparable electric utility in excess of 12.5% in any Commission opinion where rate of return has been a disputed issue. The Wisconsin Public Service Commission, which regulates the return for 91.7% of NSP's total sales, has never allowed NSP greater than 12% on its common equity equivalent. It would indeed be ironic if the Federal Power Commission would seek to cure any imagined financial ills of NSP by penalizing 8.3% of the customers to produce an excessive return to "save" a company which is 91.7% outside of FPC jurisdiction. Furthermore, the wholesale customers compete with NSP for load and customers. It would merely exaggerate the monopoly price squeeze being imposed by NSP to allow such excessive return to the wholesaler to the disadvantage of its wholesale customers.

7. The petitioners have not had sufficient time to organize the investigation of, or to investigate, the filing submitted by the company, but upon information and belief allege that the proposed increases are unnecessary, and that the present wholesale rates are reasonable and adequate and enable the company to attract capital on a reasonable basis. The petitioners specifically deny that the proposed rate schedules are just, reasonable, lawful or nondiscriminatory.

8. A preliminary review of the application, without benefit of assistance by expert analysts, reveals at least the following general areas of disagreement.

- a) The requested rate of return is shocking, excessive, unreasonable, unlawful and discriminatory. The claimed

return on equity exceeds by 25% the return on equity requested in its most recent retail case before the Wisconsin Public Service Commission, 2-U-8020, and also exceeds by that ratio the amount allowed. The rate of return allowed on net investment rate base was 9.34%, of which .89% was for construction work in progress which is not allowed by the FPC. Therefore, the comparable rate of return allowed on over 90% of NSP sales is 9.34 minus .89 or 8.45%. The company's claimed return of 9.82% exceeds this by 16.2%!

- b) The use of a December 31, 1976, capitalization to develop a rate of return for rates to be effective as early as January 1, 1976, is improper, unreasonable, unlawful and discriminatory.
- c) The claimed allowance of \$7,674,944 for cash working capital is excessive and unreasonable, and does not take into account appropriate offsets such as tax accruals.
- d) The claimed income tax expenses are unreasonable when compared with taxes actually paid. In 1974 it paid no federal or state income taxes, and, in fact, has credits available from that year.
- e) The capacity allocation factor assigned to the wholesale customers in the company's cost of service study is excessive in that it includes the peak demands of Black River Falls, and does not take into account that Black River Falls generates at the company request in order to reduce the demand on the system. This has the effect of overstating the municipal demand allocation by approximately 6%, and overstating all parts of the cost of service study, such as return requirement, affected by this allocation.

By listing these general areas of disagreement, the petitioners do not admit that other matters set forth in the application are correct, but instead petitioners specifically deny their accuracy and put the company to its proof on all such matters.

9. The applicant maintains policies and practices which are believed to be anticompetitive and inconsistent with the antitrust laws of the United States, and these practices are proposed to be continued in the proposed rate schedules in this docket. The requirement in the rate schedule that service will only be provided under a 10-year contract is unreasonable and clearly inhibits planning for alternate bulk power supply. The provisions in service agreements relating to interconnection, as amended by the last settlement agreement, do not reflect that the cost of interconnection should be shared on the basis of benefits derived by each party.

10. If permitted, the proposed rate increase, which would amount to 80% in one year, will enable the applicant, which now

enjoys a monopoly of generating and transmission systems in its service area, to drive small municipal systems out of business. The Intervenor purchase virtually all of their requirements from the applicant and there is currently no economically feasible alternative source of supply. Enjoying a monopoly control over the available power supply and transmission system, the applicants are at once the source of Intervenor supply and their principal competitors for new business and for continuing business. Upon information and belief, the proposed rate increases of 80% will require the Intervenor to increase their rates by a total of nearly 55%, thus making most of the Intervenor's retail rates substantially higher than comparable rates of applicant, and especially its industrial rates. Furthermore, upon information and belief, the proposed wholesale rates will be higher than the company's retail industrial rate. This will continue and accelerate an unlawful price squeeze imposed by the applicant upon the petitioners.

11. Power supply costs represent approximately 70% of the total operating expenses and 65% of total revenues of municipal electric distribution systems in Wisconsin (Wisconsin Public Service Commission Bulletin 48). Increases totalling 80% in this cost means approximately a 55% increase in costs to the municipal systems and it means that expenses will exceed present revenues. The current increase of allegedly only 26% above settlement rates, when put into effect subject to refund, becomes an accomplished fact which the municipals must pay whether or not it is ultimately proved to be reasonable. In order to absorb this economic shock, municipal systems must attempt to obtain rate increases from the Wisconsin Public Service Commission. Unlike procedures under the Federal Power Act, which permit imposition of rates subject to refund while hearings are conducted, the procedure in Wisconsin is that no increases are allowed until after hearing and an order by the Commission except where there are purchased power adjustment clauses. Upon information and belief some of the petitioners do not have such clauses and cannot employ them without purchasing and installing or leasing costly billing equipment. Experience with the purchased power adjustment clauses has demonstrated that they do not adequately protect the municipal systems from loss resulting from precipitous and massive increases such as those proposed here. Like the Federal Power Commission, the Wisconsin Commission is deluged with rate and other applications, resulting in substantial delays in commission proceedings. It is exceedingly unlikely that the petitioners will be able to obtain appropriate rate increases and changes in rate structures within a five-month period. This does not take into account the time necessary to prepare the cases.

12. The application calls for dramatic shifts in rate design by sharply increasing demand charges. The present rate, subject to suspension, provides demand charges of \$5.05/KW for the first 200 KW and \$4.80 for the excess. The proposed rates are \$6.96 and \$6.66 respectively. The average monthly use for the wholesale customers is 3500 KW. Under the suspended rates, this would cost \$16,850 in demand charges. Under the proposed rates, the demand charge will be \$23,370, an increase of 39%. Compared to the demand

charge in effect in January, 1975, \$4,550, the increase is 414%. By any standard that is a radical change in so short a period.

The unfortunate effect of this radical change in rate design is that unless the retail rate structures of municipal utilities can be changed drastically to conform to the new facts, there will be no direct correlation between the cost of service to the municipal utility and the retail rate structure designed to cover those costs. The distortion will appear dramatically in the difference between high load factor and low load factor customers. It is likely that some of these customers will receive energy at considerably below the actual cost under the new rates to the municipal utility while others will be paying excessive amounts and will probably have a justifiable basis to file a complaint for overcharges against the municipal utility.

The recent practice of allowing 9% refunds of excessive collections, combined with the action of the Wisconsin Public Service Commission in allowing rate level adjustments based upon purchased power costs, has the effect of providing some protection to municipal utilities concerning rate level. However, on the matter of rate design, the only way the Wisconsin municipal utilities can change the design for any class of customers which would result in an increase in rates is upon a full cost of service investigation and hearing. See Wis. Stat. §196.20. While the Wisconsin Commission can expedite certain gross adjustments for rate level, the matter of rate design cannot be restored into the industrial and commercial rates of the municipal utility customers of NSPW without full proceedings which, upon information and belief, at the present time could not possibly be accomplished in less than five months.

13. The proposed rates will perpetuate and magnify an unlawful price squeeze. The proposed wholesale rates and the existing retail large power rates are as follows, assuming a 90% power factor for the industrial customer:

	<u>Large Power</u>	<u>Wholesale</u>
First 1800 KVA (1620 KW)	\$4050	\$10,849.20
Over 1800 KVA (1620 KW)	\$2.25/KVA	\$6.66/KW

\$2.50/KW at 90% P.F.

Assuming a 90% power factor, the average monthly billed demand of approximately 7000 KW for Presto Industries (Ex. NSP - 501, Table 13) would be \$17,500 on the NSP retail industrial rate and \$46,680 on the wholesale rate. While this is a limited comparison, and although energy charges are lower for wholesale customers, it is clear that the municipal utilities cannot pay demand charges of \$6.96 and \$6.66/KW and compete with its supplier which sells the same product for approximately \$2.50/KW. This constitutes an unlawful price squeeze.

14. At a conference with the company in connection with settlement of the rate filing in Docket E-9155, the company represented to the Intervenor in that case that, although it would not agree to a moratorium on filings for further increases, it would give notice 60 days prior to the effective date of such filing. Notice was given to the Intervenor of this filing on or about December 1, 1975. In all events, the effective date should be no earlier than 60 days from such notice, or February 1, 1976.

15. The difference in impact on the systems involved is so disproportionate that reason and fairness require that the five-month suspension be allowed. When added to the probability that the proposed rates are grossly excessive, impose an improper price squeeze on the wholesale buyers, discriminate between wholesale and industrial retail rates, reflect anticompetitive practices, may violate the Mobile Sierra doctrine, and are otherwise unreasonable, improper, and unlikely to be sustained, the allowance of a five-month suspension period becomes imperative. The petitioners urgently request that the proposed rate be suspended for the full suspension period to enable petitioners and other wholesale customers to conduct an investigation of the filing, that this matter be investigated fully by the Commission, and that a public hearing be scheduled on the lawfulness of the proposed rate schedule changes and other related matters.

16. Correspondence concerning this petition should be addressed to:

Richard L. Olson
131 West Wilson Street
P. O. Box 927
Madison, Wisconsin 53701

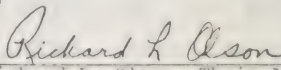
Daniel J. Sack
R. W. Beck & Associates
P. O. Box 68
Columbus, Nebraska 68601

WHEREFORE, the petitioners pray that an order be entered granting them full intervention as parties in this proceeding; that the proposed rate schedules be suspended for the maximum suspension period; that an investigation of the proposed rate schedules and of the rates and charges of the Northern States Power Company be instituted; and that public hearings be held in connection with such investigation.

Respectfully submitted,

Cities of Bangor, Bloomer, Cornell,
New Richmond, Spooner, Rice Lake and
Westby, Wisconsin

By


Richard L. Olson, Their Attorney

United States of America
Federal Power Commission

Wisconsin Electric Power Company)
and)
Wisconsin Michigan Power Company)

Docket No. ER76-303

Petition for Rehearing by the cities and villages of Clintonville, New London, Oconto Falls, Florence, Shawano, Cedarburg, Deerfield, Elkhorn, Hartford, Jefferson, Kiel, Lake Mills, Oconomowoc and Waterloo, Wisconsin; Oconto Electric Cooperative, Alger Delta Cooperative Electric Association and Ontonagon County Rural Electrification Association (the "Joint Interveners")

On February 9, 1976, the Commission issued an order in the above docket entitled Order Granting Timely Petitions to Intervene and Denying Motion for Five Month Suspension (the "Order") which inter alia, permitted intervention by the Joint Interveners in this proceeding.

On behalf of the Joint Interveners, we hereby petition the Commission to reconsider by rehearing the following portions of the Order:

1. Exclusion of the "price squeeze" issue from the proceeding; and
2. Denial of the Joint Petitioners' motion that the proposed rate increase tendered for filing by the companies on November 28, 1975, be suspended for five months.

In support of this petition, we rely upon the following grounds:

Price Squeeze

1. The Commission has refused to consider the "price squeeze" issue despite the decision in Conway Corporation v. FPC, 510 F. 2d 1264 (1975) because the mandate of the Court in Conway has been stayed pending a decision by the Supreme Court and because the Commission does not believe it has authority to deal with discrimination between the amount of a jurisdictional rate and a non-jurisdictional rate. We respectfully submit that the price squeeze of which the Joint Petitioners complain is both different in degree and kind from the previous price squeeze issues which have been brought to the Commission's attention. The Commission's refusals to consider those issues does not mean that it must or should refuse to hear all aspects of the Joint Interveners' complaint of a price squeeze in this filing.

2. In previous instances the discrimination involved was solely between the levels at which given wholesale rates were set in comparison to given retail rates. The Commission has refused consideration of such discrimination on the ground that it cannot determine the reasonableness of a wholesale rate by reference to a retail rate. This sort of blatant discrimination between rates exists and is exaggerated by the present filing and the Joint Petitioners firmly believe, along with the Court of Appeals for the District of Columbia, that the Commission has a duty to consider this fact in reviewing the rates initiated by the companies. However, the companies in the present filing have in addition proposed a rate design which will have substantial anticompetitive effects and which creates a new kind of price squeeze. This rate design is unnecessarily anticompetitive in that it abruptly and arbitrarily shifts the concentration of prices to demand.

The rates filed in this proceeding call for a single demand charge of \$6.70 for each KW of billed demand. Upon information and belief, the demand charge for over 4000 KW in the current WEP large power rate is \$1.80/KW for winter and \$2.75/KW for summer, and it is proposed that they be raised to \$2.65/KW and \$3.75/KW respectively. It is patently obvious that this rate design places the interveners at a competitive disadvantage. How can the interveners attract or hold demand metered industrial customers if they must pay \$6.70/KW in demand charges when the supplier/competitor charges as little as \$1.80/KW?

Furthermore, each intervener must justify its rates on a cost of service basis. For demand metered customers the demand charge henceforth must be altered to adjust for the \$6.70 cost. No intervener presently has a demand charge for its retail customers even approaching this figure. To change the demand rate to be consistent with costs requires an application, hearing and order. It will be months before this can be achieved. Purchase cost adjustment clauses relate to the general level of rates and amount to a surcharge; they do not and cannot do anything about rate design.

3. This filing clearly is premised in large measure upon claims that this Commission has rejected in the past. These include:

- a) construction work in progress in the rate base
- b) property held for future use in the rate base
- c) rate of return on equity of 15 percent

None of these have been allowed by the Commission. Yet by its order, rates are permitted to go into effect March 2, 1976, which reflect these improper claims, and which on their face are excessive and cannot be sustained.

It is no answer to say there will be refunds of that excess. The interveners must pay these rates now. The proceeding could easily last one and one-half to two years before refunds are paid. During those years potential customers of the interveners will be making location decisions based on rates as they exist. The prospect of a future refund is not a strong selling point. The Commission's order, requiring payment of patently excessive rates during the proceedings places the interveners at a serious competitive disadvantage. The knowledge that the recent practice of this Commission has been to allow rates which are not ultimately sustained to go speedily into effect places an additional price squeeze weapon in the hands of the applicants: By continuously filing excessive rate requests, applicants can continuously force the interveners into a competitive disadvantage. If an order or settlement ultimately requires a refund, all the applicants need do is promptly file for another excessive rate increase. That is exactly what has happened with these companies. The interveners have been paying suspended rates constantly for the last several years. No rate request of the companies has been finally established to be reasonable. There has always been a refund. But even though justice ultimately is done, this does not wipe out the fact that from day to day by the timing and magnitude of requests, the wholesale customers have been placed at unnecessary economic hardships and competitive disadvantages. This aspect of a price squeeze is certainly within the power of the Commission to review and remedy. Also, allowing five-month suspensions would help soften the unfair advantage now employed by suppliers such as the applicants in this proceeding.

4. Although the Commission may feel that it should not look at the levels of a company's retail rates to determine whether a given wholesale rate will yield a just and reasonable return on the investment required to supply wholesale customers, it does not follow that the Commission is barred from considering anticompetitive effects of the proposed innovations in rate design. The Commission may determine the amount of revenue which must be raised by use of its own yardsticks and then require that this amount be raised through a rate design which will not have drastically anticompetitive effects on the electric utility industry as a whole. Such a requirement would obviously be in the public interest.

The consideration here requested in no way threatens the Commission's prerogative to determine whether the level of the wholesale rates requested is just and reasonable. For the Commission to shut its eyes to the anticompetitive ramifications of, and motives behind, the rate design proposed in this filing would be an inexcusable breach of the Commission's duty to regulate the sale of electric energy at wholesale in the public interest. See, Gulf States Utilities Company v. Federal Power Commission, 411 U.S. 747, 758. If the Commission refuses to consider this aspect of the Joint Interveners' claim of a price squeeze, it will be responsible for needlessly threatening the survival of municipal and cooperative electric utility customers of the applicants.

Five Month Suspension

5. The fifth paragraph of the Order indicates that the Commission decided to suspend the proposed rates for only two months without considering the motion of the Joint Interveners for a five month suspension. The order attempts to cure this defect by stating that the Commission reaffirms that decision and by asserting that the period of suspension is a matter of discretion not subject to judicial review. We trust that the later justification does not mean that the Commission believes it can exercise its discretion arbitrarily or in a discriminatory fashion. Since we believe that an examination of the decision will indicate that the decision is both arbitrary and discriminatory, we believe a rehearing is required.

6. A blanket reaffirmation of a decision made without consideration of the Joint Interveners' arguments and at a time when the Commission was so overwhelmed with new filings that it could not possibly give ample consideration to the suspension issue should not be permitted to salvage that decision. Obtaining a five-month suspension is of vital interest to the wholesale customers the Commission has a duty to protect. At the very least the Commission owes the Joint Interveners a full rehearing on their request in order to fulfill its regulatory duty. The masking of a hasty decision behind a recital of an exercise of unreviewable expertise is not an acceptable discharge of the Commission's duty to protect the public interest.

7. The discriminatory and arbitrary nature of the Commission's decision is evident from a comparison of suspension granted in Docket No. ER76-399 (Wisconsin Michigan Power Company). The filings in these two proceedings, except for minor exhibits, are identical. In fact, on February 18, 1976, in Docket ER76-399, Commission Staff Counsel, with the consent of all parties, moved to consolidate Dockets ER76-399 and ER76-303! Yet in Docket ER76-303 only a two-month suspension was granted, and in ER76-399 a three-month suspension was approved--on the basis of the same data! Why? Can there be any reasonable explanation for this discrepancy in treatment? At the very least the Joint Petitioners are entitled to a three-month suspension of the proposed rates.

8. In Docket ER76-149, filed at approximately the same time as the companies' proposed increases, the Commission granted a five-month suspension to municipal interveners.

The Joint Interveners demand to know what differences justify granting them a shorter suspension than the interveners in ER76-149, ER76-399, and other dockets with more than 60-day suspension. They submit that in December and January of this year the Commission lacked the capacity to analyze thoroughly and individually the need for a suspension in each filing before it because of the multiplicity of such filings. Almost invariably these filings

followed on the heels of rate increases some of which are not yet final. This circumstance demanded fair and consistent treatment of the wholesale customers affected by these rapid increases. We believe that the Commission should reconsider the rulings which it issued during that period and grant the Joint Interveners in this proceeding the maximum five-month suspension which it has seen fit to approve for others similarly situated.

8. The public interest demands that this new set of proposed increases be very carefully examined and that everything possible be done to prevent or dampen the inflationary threat presented. Once again, the Joint Interveners stress the absolutely essential need they have for time in which to gain approvals necessary to adjust their retail rates. The companies have the luxury of proposing rates at times of their own choosing and can and certainly did, take into account the possibility of a five-month suspension. In contrast, the Joint Interveners have no control over when or how an increase will strike or how much time they will have in which to adapt or suffer. The Commission's response to requests for suspensions is unpredictable and its failure to set policy in this regard places an unfair burden on wholesale customers. This failure should be remedied on rehearing.

Respectfully submitted,

Cities and Villages of Clintonville,
New London, Oconto Falls, Florence,
Shawano, Cedarburg, Deerfield,
Elkhorn, Hartford, Jefferson, Kiel,
Lake Mills, Oconomowoc and Waterloo,
Wisconsin; Oconto Electric Cooperative,
Alger Delta Cooperative Electric
Association and Otonagon County
Rural Electrification Association

By

Richard L. Olson
Richard L. Olson
Their Attorney

STATE OF WISCONSIN)
) ss.
DANE COUNTY)

RICHARD L. OLSON, being first duly sworn, deposes and says that he is an attorney licensed to practice law in Wisconsin and Ohio; that he has been retained by the petitioners to represent them on all matters relating to the proceedings in Docket ER76-303; that as attorney for the petitioners he has signed the foregoing petition for rehearing for and on behalf of said parties; that he

is authorized to do so; that he has read the said petition and is familiar with its contents; and that the matters set forth therein are true and correct to the best of his knowledge, information and belief.

Richard L. Olson
Richard L. Olson

Subscribed and sworn to before me
this 26 day of February, 1976.

Bradley A. Wake
Notary Public, Dane County, Wisconsin.
My Commission is permanent.

UNITED STATES OF AMERICA
BEFORE THE FEDERAL POWER COMMISSION

Re: Wisconsin Electric Power Company)
and Wisconsin-Michigan Power)
Company Wholesale Rate Filing)

Docket No. ER76-303

PETITION TO INTERVENE
and
REQUEST FOR MAXIMUM SUSPENSION PERIOD

The municipal wholesale customers ("Cities") and the rural electric cooperative association wholesale customers ("Coops") of the applicant companies, pursuant to section 1.8 of the Commission's Rules of Practice and Procedure, through their attorney, petition for an order permitting intervention in the above-entitled proceeding, and suspending the proposed rate schedules for the full suspension period of five months. This petition is to supplement a telegram sent December 17, 1975, as an initial petition to intervene. A copy of the telegram was served on December 18, 1975, on all parties in accordance with the Commission's Rules of Procedure. In support of this petition the Cities and Coops respectfully show the following:

1. Each City is a municipal corporation in the states of Wisconsin or Michigan and each is a wholesale electric customer of the Wisconsin Electric Power Company ("WEP") or Wisconsin-Michigan Power Company ("WMP") under rate schedules which are affected by the companies' filing for rate increase dated November 28, 1975.

2. Each City operates an electric distribution system serving customers at retail. Each City purchases all or substantially all of the electrical energy requirements for its distribution system and for municipal use from one of the applicants. The principal service area of each City is its corporate limits and the immediate environs.

3. Oconto Electric Cooperative ("Oconto") is a cooperative association organized under Chapter 185 of the Wisconsin Statutes and is engaged in the furnishing and distribution of electric energy in rural areas in Wisconsin on a non-profit cooperative basis. Alger Delta Cooperative Electric Association ("Alger") and Ontonagon County Rural Electrification Association ("Ontonagon") are electric cooperative associations organized under the statutes of the State of Michigan. Alger and Ontonagon furnish and distribute electric power and energy to their members in rural areas of the upper peninsula of Michigan on a non-profit cooperative basis.

4. Each of the cooperatives operates an electric distribution system serving its member consumers at retail and purchases all or substantially all of its electric energy requirements at wholesale for its distribution system from WMP. The petitioning cooperatives comprise all of the wholesale customers of the applicants which are organized and operate as rural electric cooperative associations.

5. The petitioners each have a direct interest in this proceeding because they are customers to be affected by the proposed rate increases. The interests of the petitioners are not adequately represented by any other party to the proceeding and each may be bound by a Commission determination as to the lawfulness of the rates and other matters contained in the application or arising out of any investigation related to the application.

6. The petitioners have not had sufficient time to organize the investigation of, or to investigate, the filing submitted by the companies, but upon information and belief allege that the proposed increases are unnecessary, and that the present approved wholesale rates are reasonable and adequate and enable the company to attract capital on a reasonable basis. The petitioners specifically deny that the proposed rate schedules are just, reasonable, lawful or nondiscriminatory.

7. The companies claim that the \$3,198,066 request reflects a 22.8% increase. In fact, it is at least a 26.3% increase over settlement rates approved by this Commission on December 16, 1975. Further, this increase follows closely upon a \$3,018,000 request, reflecting an alleged 35% increase, which went into effect September 20, 1974, after a five-month suspension. If allowed, the cumulative effect of the two increases would be an 86% increase over the rates in effect through September 20, 1974. It is respectfully submitted that rate increases aggregating 86% within 15 months cannot be justified on any basis. If it suggests anything, it suggests questionable management which should not be rewarded with one day suspension of these iniquitous rates.

8. Petitioners reserve the right to question whether the municipal contracts fall within the protection of the Mobile Sierra doctrine.

9. In this filing WEP/WMP seek a 15% return on common equity. This is unreasonable, unlawful and will result in unfair discrimination against the petitioners. The Federal Power Commission has not allowed a return on equity for a comparable electric utility in excess of 12.5% in any Commission opinion where rate of return has been a disputed issue. The Wisconsin Public Service Commission, which regulates the return for over 95% of WEP/WMP's total sales, has never allowed WEP/WMP greater than 12% on common equity. It would indeed be ironic if the Federal Power Commission would seek to cure any imagined financial difficulties of WEP/WMP by penalizing the customers buying less than 5% of the companies' sales to produce

an excessive return to "save" a company which is 95% outside of FPC jurisdiction. Furthermore, the wholesale customers compete with the applicants for load and customers. It would merely exaggerate the monopoly price squeeze being imposed by WEP/WMP to allow such excessive return to the wholesalers to the disadvantage of its wholesale customers.

10. A preliminary review of the application, without benefit of assistance by expert analysts, reveals at least the following general areas of disagreement.

- a) The requested rate of return is shocking, excessive, unreasonable, unlawful and discriminatory. The claimed return on equity exceeds by 25% the return on equity allowed in the most recent orders affecting the applicants issued by the Wisconsin Public Service Commission.
- b) The inclusion of construction work in progress in the rate base or as a basis for increasing the return, is unlawful, economically unsound and is unreasonable and unfair to wholesale customers.
- c) The use of a July 31, 1976, capitalization to develop a rate of return for rates to be effective as early as January 1, 1976, is improper, unreasonable, unlawful and discriminatory.
- d) The claimed allowance for cash working capital does not take into account appropriate offsets such as tax accruals.
- e) The inclusion of \$6,284,000 of plant held for future use in the rate base and assignment of \$214,000 to the wholesale rate base is improper and unreasonable.
- f) The inclusion of accumulated deferred investment tax credit at 15% cost is improper, unreasonable and unlawful; it inflates the claimed rate of return by 0.269 percentage points.
- g) The inclusion of non-operating taxes in the cost of service is improper and unreasonable.
- h) The materials and supplies expenses for Period II are inflated by the use of an arbitrary and unsubstantiated multiplier; they also improperly include costs attributable to the WEP steam utility.

By listing these general areas of disagreement, the petitioners do not admit that other matters set forth in the application are correct, but instead petitioners specifically deny their accuracy and put the companies to their proof on all such matters.

11. The petitioners reserve the right to question whether the applicants maintain policies and practices which are anticompetitive and inconsistent with the antitrust laws of the United States, and which would be continued in the proposed rate schedules in this docket.

12. If permitted, the proposed rate increase, which when added to the prior increase, would amount to 86% in 15 months, will enable the applicants, which now enjoy a monopoly of generating and transmission systems in their service areas, to drive small municipal and cooperative systems out of business. The petitioners purchase virtually all of their requirements from the applicants and there is currently no economically feasible alternative source of supply. Enjoying a monopoly control over the available power supply and transmission system, the applicants are at once the source of petitioners' supply and their principal competitors for new business and for continuing business. Upon information and belief, the proposed rate increases, now totalling 86%, will require the petitioners to increase their rates by approximately 62%, thus making most of the petitioners' retail rates substantially higher than comparable rates of applicants. Upon information and belief, the proposed wholesale rates will be substantially higher than the WEP and WMP retail industrial rates. This will continue and accelerate an unlawful price squeeze imposed by the applicants upon the petitioners.

13. Power supply costs represented approximately 73% of the total operating expenses and 72% of total revenues of municipal electric distribution systems in Wisconsin in 1974. (Wisconsin Public Service Commission Bulletin 48). Increases totalling 86% in this cost means approximately a 62% increase in costs to the municipal systems and it means that expenses will exceed present revenues. The current increase of allegedly 22.6%, (or 26.3% above settlement rates approved December 16, 1975), when put into effect subject to refund, becomes an accomplished fact which petitioners must pay whether or not it is ultimately proved to be reasonable. In order to absorb this economic shock, municipal systems must attempt to obtain rate increases from the Wisconsin Public Service Commission. Unlike procedures under the Federal Power Act, which permit imposition of rates subject to refund while hearings are conducted, the procedure in Wisconsin is that no increases are allowed until after hearing and an order by the Commission except where there are purchased power adjustment clauses. Upon information and belief some of the petitioners do not have such clauses and cannot employ them without purchasing and installing or leasing costly billing equipment. Experience with the purchased power adjustment clauses has demonstrated that they do not adequately protect the municipal systems from loss resulting from precipitous and massive increases such as those proposed here. Like the Federal Power Commission, the Wisconsin Commission is deluged with rate and other applications, resulting in substantial delays in commission proceedings. It is exceedingly unlikely that the petitioners will be able to obtain appropriate rate increases and changes in rate structures

within a five-month period. The petitioning cooperatives are required to give 90 days notice prior to increasing rates to their retail customers, hence a five-month suspension is necessary to determine and put into effect new rate schedules.

14. The application calls for unprecedented and unjustifiable shifts in rate design by sharply increasing demand charges. The present rate provides demand charges of \$2.32/KW for the first 2500 KW and \$1.80 for the excess. The proposed rate is \$6.70/KW. This is an increase of 189% and 272% respectively. The average monthly use for the wholesale customers is approximately 7000 KW. Under the present rates, this would cost \$13,900 in demand charges. Under the proposed rates, the demand charge will be \$46,900, an increase of 237.4%. By any standard this is a radical change in so short a period.

The unfortunate effect of this radical change in rate design is that unless the retail rate structures of the petitioners can be changed drastically to conform to the new cost of service, there will be no direct correlation between the cost of service to the petitioning utilities and their retail rate structures designed to cover those costs. The distortion will appear dramatically in the difference between high load factor and low load factor customers. It is likely that some of these customers will receive energy at considerably below the actual cost under the new rates to the municipal utility while others will be paying excessive amounts and will probably have a justifiable basis to file a complaint for overcharges against the petitioning utility.

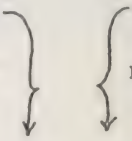
The recent practice of allowing 9% refunds of excessive collections, combined with the action of the Wisconsin Public Service Commission in allowing rate level adjustments based upon purchased power costs, has the effect of providing some protection to municipal utilities concerning rate level. However, on the matter of rate design, the only way the Wisconsin municipal utilities can change the design for any class of customers which would result in an increase in rates is upon a full cost of service investigation and hearing. See Wis. Stat. §196.20. While the Wisconsin Commission can expedite certain gross adjustments for rate level, the matter of rate design cannot be restored into the industrial and commercial rates of the municipal utility customers of WEP/WMP without full proceedings which, upon information and belief, at the present time could not possibly be accomplished in less than five months.

15. The proposed rates will perpetuate and magnify an unlawful price squeeze. The proposed wholesale rates and the existing retail large power rates are as follows:

	<u>Large Power</u>		<u>Wholesale</u>
	<u>Winter</u>	<u>Summer</u>	
First 300 KW	\$885.00	\$1000	6.70
Next 700 KW	2.70/KW	3.25	for
Next 3000 KW	2.20/KW	2.65	all
Over 4000 KW	1.80/KW	2.65	KW

An average wholesale customer buying 7000 KW in a month will pay a \$46,900 demand charge. That customer would pay \$14,775 under the winter retail rate for general primary service, and \$19,175 under the summer retail rate. The wholesale demand charge is 217% above the winter retail demand charge and 145% above the winter charges. WEP recently applied to the Wisconsin PSC for a retail rate increase. The proposed general service demand charges for the first 200 KW are \$2.75 for winter and \$3.75 for summer. Even though the wholesale energy charges are lower than those for the retail general primary rate, it is quite clear that a sharp and discriminatory differential exists in the rate structures which will be most harmful to the wholesale customers. The petitioners cannot afford to pay \$6.70 per KW and compete with their suppliers which sell the same product for as low as \$1.80 per KW. This constitutes an unlawful price squeeze.

16. Petitioners deny that the proposed increases are in the 22-26% range alleged by the applicants. Petitioners allege that the increases are substantially higher and have the effect of placing the wholesale rates far in excess of retail industrial rates. In the short time available, certain petitioners have made a brief analysis of the rates and find the following relationships:

<u>Wholesale Customer</u>	<u>% Increase Alleged by Co. for 1975</u>	<u>% Increase Determined by Petitioners on Actual Bills</u>	<u>Proposed Rate Exceeds Retail Industrial Rate By:</u>
Jefferson	22.8	38.4	23.9%
New London	26.7	52.6	
Shawano	24.8	57	61%
Elkhorn	19.1	31	29.9%
Alger Delta			
Cornell	27.4	44.8	 present WMP 80.9%
Harris	54	83.9	
Holmes	20.1	42.2	

Maple Ridge	15	37.2	} {	proposed WMP 10.7%
Nadeau	21.1	43.6		
Gourley	28.1	61.4		
Oconto Falls	12.8	28.13		19.5% (12.5% after surcharge)
Cedarburg	16.1	24.6		17-40%

These figures support the allegation that the proposed increases are shockingly high, and indeed higher than the company alleges; that in many instances, especially small coops, the increases in the form they have taken can threaten the very existence of the small publicly owned distribution system; and that there is in fact a serious, damaging and unlawful price squeeze directed at the petitioners.

17. The difference in impact on the systems involved is so disproportionate that reason and fairness require that the five-month suspension be allowed. When added to the probability that the proposed rates are grossly excessive, impose an improper price squeeze on the wholesale buyers, discriminate between wholesale and industrial retail rates, may reflect anticompetitive practices, may violate the Mobile Sierra doctrine, and are otherwise unreasonable, improper, and unlikely to be sustained, the allowance of a five-month suspension period becomes imperative. The petitioners urgently request that the proposed rate be suspended for the full suspension period to enable petitioners and other wholesale customers to conduct an investigation of the filing, that this matter be investigated fully by the Commission, and that a public hearing be scheduled on the lawfulness of the proposed rate schedule changes and other related matters.

Correspondence concerning this petition should be addressed to:

Richard L. Olson
131 West Wilson Street
P. O. Box 927
Madison, Wisconsin 53701

Daniel J. Sack
R. W. Beck & Associates
P. O. Box 68
Columbus, Nebraska 68601

WHEREFORE, the petitioners pray that an order be entered granting them full intervention as parties in this proceeding; that the proposed rate schedules be suspended for the maximum suspension.

Cities and Villages of Clintonville,
New London, Oconto Falls, Florence,
Shawano, Cedarburg, Deerfield, Elkhorn,
Hartford, Jefferson, Kiel, Lake Mills,
Oconomowoc, Slinger and Waterloo,
Wisconsin; and Crystal Falls, Michigan;
Oconto Electric Cooperative, Alger
Delta Cooperative Electric Association
and Ontonagon County Rural Electrifi-
cation Association

By

Richard L. Olson

STATE OF WISCONSIN)
) ss.
DANE COUNTY)

Richard L. Olson, being first duly sworn, deposes and says that he is an attorney licensed to practice law in Wisconsin; that he has been retained by the petitioners to represent them on all matters relating to the proceedings in Docket ER76-303; that as attorney for the petitioners he has signed the foregoing petition to intervene for and on behalf of said parties; that he is authorized to do so; that he has read the said petition and is familiar with its contents; and that the matters set forth therein are true and correct to the best of his knowledge, information and belief.

Richard L Olson

Richard L. Olson

Subscribed and sworn to before me
this 14th day of December, 1975.

Paul G. Hahn

Notary Public, Dane County, Wis.
My Commission is permanent.

STATEMENT OF ROBERT E. GRIMSHAW
PRESIDENT
CONNECTICUT MUNICIPAL ELECTRIC AND GAS ASSOCIATION
BEFORE THE SUBCOMMITTEE ON ENERGY AND POWER OF THE
HOUSE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE
HOLDING HEARINGS ON ELECTRIC RATE AND REGULATORY REFORM

APRIL 5, 1976

My name is Robert Grimshaw. I am President of the Connecticut Municipal Electric and Gas Association and also General Manager of the City of Norwich Department of Public Utilities. The Association is comprised of six municipal utilities, serving a population of over 150,000. I would like to take this opportunity to thank the Committee for allowing me to speak concerning Electric Rate and Regulatory Reform. Although there are several items that I could address myself to, as they affect the municipal utilities in Connecticut, I plan on restricting my comments mainly to the policy of the Federal Power Commission allowing a wholesale power supplier to file for a rate increase before deciding an increase that has already been filed and approved, subject to a possible appropriate refund; what we call pancaking rate filings.

The information that I will give will be actual events that have occurred to the Connecticut Municipals and I will file with the Committee copies of documentation confirming all the events.

Members of the Connecticut Municipal Electric and Gas Association are all served by the same wholesale supplier for electricity. On July 16, 1972, our wholesale supplier filed with the Federal Power Commission a wholesale rate increase designated as R-1. This increase was purported to increase revenues about a million and a quarter dollars, or about 14%, but actually, the increases ended up at more than three million and the amount of increase to some of our members was over 50%. Our wholesale supplier continually understates the magnitude of the

increases they are filing.

On August 14th, the Commission gave a full five-month suspension for this rate, making it effective January 16, 1973. The formal hearing on the first rate increase terminated in December of 1973, and on July 29, 1974, the Administrative Law Judge issued the initial decision. This decision found that our wholesale supplier's proposed rate increase was excessive and cause for a reduction in the amount of the increase and, further, rejected the rate design and other provisions of the tariff as submitted by the wholesale supplier as restrictive. I should like to point out, at this time, that when our wholesale supplier filed for a rate increase, he not only filed for a rate increase, but a whole new rate format that made it difficult, if not impossible, for the municipals to come in with a proper cost-of-service rate level for its customers, until such time as a formal decision was made by the Commission on whether the format, as filed, was acceptable. As you can see, it took almost two years from the time that the rate was filed until the Administrative Law Judge rendered his opinion.

Briefs on exceptions were filed by all parties on August 29, 1974, and briefs opposing exceptions were filed on September 19, 1974. When this was done, it then was up to the Commission to proceed and give a decision.

On August 2, 1974, four days after the Administrative Law Judge's decision rejecting most of the wholesale supplier's rate level and tariff on the first rate increase, a second rate increase was filed, called R-2. This increase purported to increase revenues by over a million dollars and in it had many of the same restrictive provisions that the Administrative Law Judge had rejected in his opinion on the first rate

case on July 29, 1974. In this case, the Commission ordered on August 3, 1974, that the rate be suspended for one day, making it effective on September 2, 1974. The reason for the one-day suspension, according to the Commission, was that the wholesale supplier was asking for a 5.61% rate of return which was very low. On September 6th, the Municipals petitioned for an emergency stay on the one-day suspension, stating that the Commission was in error concerning the 5.61% rate-of-return. The Company's filing showed a return of 9.16%. Therefore, the Commission's reason for granting the one-day suspension was not valid. On September 27, 1974, the Commission sustained its one-day suspension, stating that the 5.61% return in its order was a typographical error, and, therefore, our reason for rejection was null and void. The Association re-filed on October 4th, asking for a reconsideration and asking the Commission to substantiate its claim of a typographical error by furnishing for inspection transcripts taken from minutes of the meeting in which this decision was made. The Association received a letter from the Secretary of the Commission that verbatim transcripts or tapes were not made and that the minutes show only final action.

Because there were several provisions in the R-2 Rate, the second rate increase, that were similar to the filing in the first rate increase, and since the Administrative Law Judge had rejected most of these provisions, the Municipals petitioned the Commission on February 20, 1975, to move for an expedited decision on the first rate increase, because obviously, many of the issues in the second rate increase would be moot if the Commission upheld the Administrative Law Judge's decision. The Commission denied our request on May 2, 1975, and on May 20, 1975, denied our petition for a re-hearing.

The interaction of the first and second tariff filings and the inaction of the Federal Power Commission forced the Connecticut Municipals to file for a Petition of Mandamus with the United States District Court of Appeals of the District of Columbia, asking the Court to compel the Commission to give us an expeditious decision on the R-1 Rate. This was filed on July 12, 1975. The Commission indicated to the Court that they expected a decision to be forthcoming within the next ninety days on this matter. Therefore, on October 26, 1975, the Court of Appeals denied the Petition for Mandamus as not then appropriate, but gave the Municipals the right to refile their petition if the Federal Power Commission did not issue a final decision on the first rate increase within ninety days.

On November 20, 1975, the initial hearing session was held on the second rate increase, more than a year after the rate was allowed to be put into effect. At this hearing, our wholesale supplier requested that it be allowed to submit new cost-of-service data. This was vigorously opposed by the Municipals and the Federal Power Commission Staff, since both parties had analyzed the data submitted, and to allow new cost-of-service data, in effect, made this a new rate case. In other words, the wholesale supplier did not feel it could justify the data supplied at the time of filing that it claimed proved the need and level of the rate increase. The Administrative Law Judge upheld the wholesale supplier and the Municipals and the Federal Power Commission Staff petitioned the Commission to overturn the Administrative Law Judge's decision. The Commission, in its order of February 11, 1976, affirmed the Municipals' and Staff's position and did not allow the new data to be submitted. This order was given on February 11, 1976. It is now being appealed by our wholesale supplier.

On December 3, 1975, our wholesale power supplier filed a third rate increase, designated as R-3. This was a massive six million dollar increase, which in turn was premised on many of the tariff principles previously ruled against by Judge Land in the first rate increase, and, also, that we oppose in the second rate increase. Therefore, the Municipals appealed to the Commission to reject the third rate filing until the first and second rate increases have been decided, especially since the Federal Power Commission Staff had indicated that the second rate filing was totally and completely excessive. Or, if not to reject it, at least suspend it for the full five-month period. The Commission, however, decided to suspend the rate for two months, making it effective March 2, 1976.

More than ninety days had passed since the rejection of the original Writ of Mandamus on the first rate increase, so the Municipals refiled on December 18, 1975, a Mandamus Proceeding, asking that the Court order the Federal Power Commission to give a decision on the first rate increase. On December 29, 1975, the Court ordered the Federal Power Commission to respond to our Petition of Mandamus. On December 31st the Commission responded, citing that the pressure of gas curtailment proceedings made it impossible to have the decision on the first rate increase in the anticipated ninety days, but they expected a final order by late February of 1976. On February 26, 1976, the Federal Power Commission advised the Courts that it would be unable to give a decision on the first rate increase in the month of February. Therefore, on March 9, 1976, the Circuit Court issued an order granting our Mandamus, directing prompt resolution of the issues in the first rate increase. To date, the Municipals have not received a decision from the Federal Power Commission.

A pre-hearing conference was held on the third rate increase on January 28, 1976. At this conference, the Federal Power Commission Staff indicated that they felt the rates were unjust, unfair, and unreasonable. Hearings before the Administrative Law Judge are scheduled to begin this month.

I feel these events vividly point up the problems we are running into when our wholesale supplier is allowed to file a new rate increase before a previous filing has been decided. We have a rate that was filed almost four years ago that we have not yet received a decision on from the Federal Power Commission, even though the Federal Power Commission Staff and the Administrative Law Judge took positions closely aligned with the Municipals. But even if we should receive a favorable decision on this first rate increase from the Federal Power Commission shortly, it certainly will not give rate relief to our consumers, because we presently are under the third rate increase. This third rate increase makes our wholesale rates approximately 100% higher than before the filing of the first rate increase. It also makes our wholesale rates higher than the rates our supplier charges its retail-industrial customers putting us in a price squeeze and making it impossible for the Municipals to effectively compete in this area. Also, if the Commission should move quickly on the second rate increase, and previous events certainly give no reason to believe this will happen, we still will be required to pay wholesale rates at the third rate increase level presently in effect.

One of the rationales of the Federal Power Commission, in allowing the breaking of rates, is that they are subject to refund. Unfortunately, this does not really help the consumer because reduction of previously filed rates does not flow through to the latest rate increase. For

example, if the Commission declares our first rate increase excessive, and required appropriate refunds, our wholesale supplier would not be required to reduce its second and third rate increases by a like percentage even though in each rate filing our wholesale supplier has pancaked his increases on the assumption the previous rate filing was fully and totally justified. Even the money refunded may not get to the proper rate payer. Certainly, there are many consumers that we had on our system that paid these rates that are no longer being supplied by us because of the long time delay. Therefore, none of their excess payments can be refunded to them. Legal and technical expertise needed in these lengthy proceedings can get quite expensive and this uses up a portion of the refunds. It just becomes extremely difficult to get this money back to the consumer.

As I have stated previously, not only did our wholesale supplier file for a rate increase, but he also filed a radical new rate format and had restrictive provisions in the tariff filing. These restrictions prevented freedom of action for alternative power supply sources, excessive penalties if we forecast our electric loads improperly, rewarded inefficient power use, and made the Municipals assume certain of the wholesale supplier's operating risks. Also, our three rate increases have been suspended for three different periods; five months, one day, and two months. The Federal Power Commission appears to have no set rules concerning suspensions, and appears to take an arbitrary approach in this matter. Because of local legal requirements, this inconsistency can, at times, make it difficult for the municipal utility to make the necessary rate adjustments to compensate for these added costs, placing the municipals in a precarious financial situation. Anywhere from 50% to 80% of our Members' operating costs are for 'wholesale power. All

of the policies I have mentioned put a hardship on our electric systems and the consumers we serve. Therefore, I strongly urge this Committee to support legislation prohibiting the pancaking of wholesale tariff filings and to approve legislation compelling other regulatory reforms. Thank you.

R-2

R-3

Aug. 2, 1974 - R-2 Rate Filed
Aug. 30, 1974 - F.P.C. Suspends Rate For One Day
Sept. 2, 1974 - R-2 Rate in Effect
Nov. 20, 1975 - Initial Hearing Session on R-2
(Hearings Before Administrative
Law Judge Under Way.
Total time as of April 5th, 1976
1 yr. 8 mos., 3 days)

Dec. 3, 1975 - R-3 Rate Filed
Dec. 31, 1975 - F.P.C. Suspends for 2 Mos.
Jan. 28, 1976 - Pre-Hearing Conference Held
March 2, 1976 - R-3 Rate in Effect
April, 1976 - Hearings to Start

(Total time as of April 5th,
1976, 4 mos., 2 days)

Connecticut Municipal Electric and Gas Association

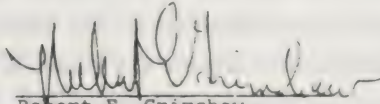
April 5, 1976

TO: THE SUBCOMMITTEE ON ENERGY AND POWER
OF THE HOUSE COMMITTEE ON INTERSTATE
AND FOREIGN COMMERCE

FROM: Robert E. Grimshaw, President

SUBJECT: CONSTRUCTION-WORK-IN-PROGRESS

The Connecticut Municipal Electric and Gas Association opposes including Construction-Work-In-Progress in the rate base. I am enclosing a statement made on behalf of the Association concerning this matter before the Federal Power Commission on March 8, 1976, in New York City.



Robert E. Grimshaw
President

Connecticut Municipal Electric and Gas Association

My name is Robert Grimshaw, President of the Connecticut Municipal Electric and Gas Association. The Association is comprised of six municipally owned electric systems in the State of Connecticut serving a population of approximately 150,000. I am here today to speak in opposition to the proposal in Docket No. RM75-13 - To Provide for Inclusion of Construction-Work-In-Progress in Rate Base.

As a manager of an electric utility, I can certainly sympathize with the problem of insuring the financial integrity of utilities. Causing utilities to face serious financial difficulties through regulation does not help the consumer. We are all aware that the electric utility industry is a highly capital intensive industry and, unfortunately, no longer has the declining cost spiral that it formerly enjoyed. However, we feel that the Federal Power Act, as it is presently written, is capable of resolving utility financial problems using the rate-of-return approach. Just recently, the Chairman of the Commission indicated that one of his highest priorities would be to promptly resolve rate cases pending before the Commission. The Association feels this approach will protect the financial integrity of needy utilities, and be a great deal fairer to the consumer. Certainly, streamlining rate hearing proceedings should be attempted and its effect analyzed before taking such drastic action as including construction-work-in-progress in the rate base.

The Association feels that the Federal Power Commission is faced with a very serious question and that is - are utilities, because they work on a rate-of-return basis, entitled to be risk free? Certainly, the financial community would like to see this happen as it would with any entity it was financing, but I think the Commission must weigh all

(An Association to promote the general welfare and protect the general interest of the Publicly Owned Electric and Gas Utilities of Connecticut)

aspects of this complex issue and not rely solely on the wishes of the financial community.

We must not forget that investor-owned utilities are profit-making enterprises and investors must assume a certain risk-factor. It is to the consumer's interest that they be kept financially solvent, but does this remove them from absorbing poor management judgements, especially as it applies to large expenditures involved in construction? For example, in the State of Connecticut, our wholesale supplier, by its own admission, has an 85% reserve capacity, which compared to the normal 15% to 20% is 4 times more than necessary. Also, it has recently decided to stop construction on a large nuclear plant for a minimum of 3 years and possibly longer. This decision was not made because of financial difficulties, but rather because of overbuilding. The wholesale customers had nothing to say about the management decision that brought those events about, and because an unsound management decision was made, should we have to pay for that decision or should the management be forced to answer to the stockholders through reduced earnings and possibly reduced dividends? Is it fair and just that the Association's stockholders, and our customers are our stockholders, be required to subsidize the stockholders of another company if poor investment decisions are made? There are those who claim that the present problems that some utilities face are not due solely to the energy crisis, but also by a lack of business imagination by top management. Blanket increased revenue coverage will not force utility management to show the initiative that we have a right to expect from industry when it faces problems. Historically, non-risk entities have been, through legislation, non-profit. Certainly, investor-owned utilities are not non-profit.

The Connecticut Municipals make up approximately 10% of the total revenues of our wholesale supplier. This percentage is very similar to the national average of wholesale customers' revenues to total revenues. At the present time, there is no indication that the Connecticut PUCA will allow construction-work-in-progress in the rate base. Here we have the distinct possibility of a group supplying 10% of the revenues paying a premium where those paying the remaining 90% of the revenues will be exempt. Certainly, the FPC could, if it does decide to allow construction-work-in-progress in the rate base, allow it only in those states in which the State regulatory agency decided to include it in the retail rates so such cost can be paid by all rate payers. Also, since nationwide, only approximately 10% of the total revenues of investor-owned utilities come through wholesale sales, the proposal in Docket RM75-13 would have a negligible effect on increasing the revenues of the investor-owned utilities, but put a very heavy burden on those utilities that purchase wholesale power. This burden would make it impossible for such utilities to remain competitive in the area of retail rates.

One of the main concerns of the Connecticut Municipal Electric and Gas Association in allowing construction-work-in-progress into the rate base is the removal of incentive for sound capital investment on the part of the utilities. It would also tend to make investor-owned utilities hesitant to vigorously pursue legal action should contractors or suppliers fail to honor contractual obligations. After all, where are the damages? The utility is making its profit regardless. Also, we have a situation that tends to encourage large expenditures since this would generate larger profits.

If, despite these arguments, in its wisdom the Commission does approve the proposal in Docket RM75-13, it would seem to the Connecticut Municipal Electric and Gas Association that the least that can be done is to require each utility to request the inclusion of construction-work-in-progress on an individual basis in a rate application and require full evidentiary hearings on the matter.

In closing, some utilities are in a cash crunch right now and most of us are no longer darlings of the investment community. This is true whether public or investor-owned. However, just recently the financial picture of investor-owned utilities has improved dramatically. This is reported in the Federal Power Commission News, Volume 8, No. 50, Page 9. Certainly, the financial problems of investor-owned utilities are not uniform throughout the nation. By their own admission, there are some utilities that are in a strong financial position. Recent hearings before the Senate Finance Committee have indicated that the turn-around has been so dramatic that there is some question now on whether immediate financial assistance is needed for investor-owned utilities. Therefore, it appears that the present Federal Power Act is sufficient to handle the financial problems of utilities on a rate-of-return basis. I strongly urge the Federal Power Commission not to approve the construction-work-in-progress in the rate-base, but to work to streamline the rate hearing process under the Federal Power Act. If this is done, those utilities needing financial relief can receive the needed level of revenues without being given blanket assurance in advance of revenue levels. Thank you.

PANEL ON CONSUMER REPRESENTATION BEFORE THE FPC AND
STATE AGENCIES

STATEMENTS OF: WILLIAM W. HARSCH, JOHN T. SCHELL, GEORGE
D. RIVES, AND ROBERT W. PERDUE

TESTIMONY OF WILLIAM W. HARSCH,
CHAIRMAN, RHODE ISLAND PUBLIC UTILITIES COMMISSION

HOUSE INTERSTATE AND FOREIGN
COMMERCE COMMITTEE

ENERGY AND POWER SUBCOMMITTEE

APRIL 5, 1976

The regulatory process today sits at a key intersection point where the global myths and realities of the energy crisis are translated into an effect on the individual consumer.

As we all realize, the energy crisis of today is no longer one of supply. It is a price crisis. The long lines at gasoline stations, the reduced voltages, the energy ration stamps waiting in the wings are no longer an immediate part of the American scene. And this is true because --- at least in the short run --- it turned out that there was plenty of energy to go around --- if the price was right.

As a result, however, energy costs and prices are no longer just the irritant they once were. As I have observed before, the price of energy can demolish budgets, close businesses, affect the course of international affairs, elect and defeat politicians, push middle class families to desperate financial straits, and plunge low income families into dire poverty.

To the consternation of many of my colleagues in the regulatory process, and of most officials in the utility industry, these energy crisis effects have brought regulation out of the shadows and into the bright lights of public scrutiny. On the state level, neither the industry nor the regulators can make a decision any longer that is not subject to intense public debate and criticism. I am not so sure that this forced opening of the regulatory process has been as effective on the national level, but legislation such as we are discussing today has the potential for helping this process along.

And although this new-found public notoriety has been the downfall of several public officials and not a few utility executives, I feel it can also be treated as a challenge that the regulatory world should be willing and able to meet.

In Rhode Island, I adopted the phrase and the goals of "bringing the regulatory process out of the closet" when I became Chairman just one year ago. I have welcomed and encouraged public participation in our rate setting and other regulatory activities, and we have greatly expanded our consumer division which works one-on-one with utility customers having difficulties with utility companies. Moreover, we search for every opportunity to educate citizens about what we are doing and how we are doing it, and we attempt to bring individuals, consumer groups and business organizations into the process as partners.

I am happy to see that this important aspect of the regulatory process appears to be a major thrust of the legislation under consideration. "Rate reform" and "regulatory improvement" would be hollow phrases, indeed, if the public was not given a role in the process.

I must report, however, that I have found it a somewhat frustrating exercise to attempt to bring regulation out of the vacuum it has operated within, isolated from all forces except a few lawyers and the regulated utility companies it must daily deal with. It is frustrating, primarily, because it is so terribly difficult to assess the effectiveness of your efforts. It is difficult to point out to citizens and consumer groups how their efforts are impacting on the regulatory process, and it so far has been almost impossible to gauge whether opening opportunities for citizen participation has actually resulted in increasing public confidence in the regulatory process.

I think I can report, however, some success in the Rhode Island experience. In purely numerical terms, we have exposed thousands of people to the regulatory process

who were barely aware of its existence previously. In terms of effectiveness, I can discern much greater sophistication in the arguments of consumer groups and individual citizens who come before the Commission on a regular basis. And outside of the formal regulatory process, we have had some success in encouraging individual utility companies to meet on a regular basis with groups of citizens from their franchise areas to discuss consumer concerns. I think this has been one of our most encouraging accomplishments.

Some specific factors certainly are important in designing an effective public participation scheme.

First, and most important, of course, is to ensure that consumers as a matter of right will be welcomed into the regulatory process as equal partners with the regulated utilities and the Commission staffs who traditionally have been the primary actors in the rate setting arena.

Additionally, it is important to ensure that the consumer groups have an opportunity to gain the financial resources which are necessary to have a serious impact on the process.

I think the legislation under discussion goes as far as it should in terms of ensuring consumer participation in the state's regulatory affairs.

The legislation, as it should, contains more detailed and far reaching changes in the federal system to allow for a completely new level of participation before the Federal Power Commission. I would like to focus briefly on these provisions.

The major structural change, of course, would be the creation of an Office of Public Counsel within the Federal Power Commission. I am not opposed to this approach.

and it certainly would appear to be an improvement over the current lack of any meaningful representation of the individual consumer on a continuing basis.

In Rhode Island, we do not have a public counsel within the Division of Public Utilities and the public interest is represented before formal hearings by the Rhode Island Consumers' Council, an independent agency created by the legislature. Personally, I think in the long run that this is a better solution than having the public counsel within the Commission. If the Agency for Consumer Advocacy which has been proposed at the federal level ever becomes a reality, I would recommend that a division within that agency be created specifically to represent the consumer at the Federal Power Commission. Absent the existence of such a Department, I believe the proposal as contained in the legislation is a fair alternative.

The legislation also would provide for funding of certain individuals whose interests otherwise would not be put before the Commission. I have previously testified that some manner should be found to allow state or local agencies to fund meaningful interventions before the Federal Power Commission, preferably by allowing a certain limit of expenses of a public agency, which is designated by the Governor of a state to intervene, to be charged back to the utility. As the legislation currently is written, I think very few instances will occur in which individuals will be able to show that they represent an interest not in some way already represented before the Commission and so qualify for funding, especially after creation of an Office of Public Counsel.

I think these provisions taken together, however, will go far to ensuring that a new type of testimony will appear before the Commission, or at least before the administrative law judges which do most of the Commission's business.

There is a less formalized, more subtle side to the regulatory process, however, which I feel is particularly important, and which is now conspicuously absent from the business of the Federal Power Commission. This is the education which many state Commissioners receive from the opportunity they have to communicate, through the hearing process, with the individual citizens, businessmen, and industrialists who make up the consuming public.

I testified before the Senate Commerce Committee last September on the nomination of Mr. Richard Dunham to head the FPC and asked that the new chairman adopt a policy of having the Commissioners and administrative law judges hold field hearings in areas of the country affected by their decisions.

"While this policy would increase the visibility of the FPC to the public," I said at that time, "it would have the equally important effect of increasing the FPC's awareness of the public's needs and desires.

"For example, if the commissioners could find time to convene a hearing in some medium sized New England town on increased electrical rates, the fuel adjustment charge, or any of the problems they daily deal with here, I can assure them they would get a far different feeling for the mood of the country than they get from a room full of lawyers in Washington."

Nothing I have seen would cause me to change that statement. And, in closing, I would respectfully suggest that the present legislation be amended to require that the trial judge be required to hold at least one session of rate case in the area of the country his decision will affect, and that the general public, not just the intervening

STATEMENT OF
JOHN THOMAS SCHELL
Attorney at Law
Washington, D.C.
BEFORE THE
SUBCOMMITTEE ON ENERGY AND POWER
OF THE
HOUSE INTERSTATE AND FOREIGN COMMERCE COMMITTEE
REGARDING
PUBLIC PARTICIPATION PROVISIONS
OF THE
ELECTRIC UTILITY RATE
REFORM AND REGULATORY IMPROVEMENT ACT
H.R. 12461.
April 5, 1976

Mr. Chairman, Members of the Committee, I appreciate the opportunity to appear before you again to comment on portions of H.R. 12461 that provide for increased consumer participation before the Federal Power Commission and state regulatory agencies. My qualifications are attached, but in summary, I am an attorney with the firm of Peabody, Rivlin, Lambert & Meyers in Washington, D.C.. For the past five years I have been engaged in numerous electric and telephone rate cases on behalf of consumer groups in Virginia, Maryland, Pennsylvania, and the District of Columbia. For the past two years I have worked with the Office of Public Counsel in the Interstate Commerce Commission.

The need for increased consumer participation before state and federal regulatory agencies is no longer truly open to serious question. The record in numerous hearings in both houses of Congress and state legislatures is replete with compelling support for such need. Suffice it to say that I strongly urge the Members of this Committee to continue their efforts to increase consumer participation in the regulatory process.

Today I would prefer to focus on specific proposals in H.R. 12461 that are intended to increase this participation. My comments will be directed at two areas: (1) the requirements for truly effective consumer participation; and (2) specific suggestions for strengthening the proposals contained in the bill.

REQUIREMENTS FOR EFFECTIVE CONSUMER PARTICIPATION

The institutionalization of consumer participation can be had through the use of a number of approaches. The most commonly used are (a) reimbursement of intervenor costs, (b) establishment of a litigation office charged with the responsibility for protecting consumers ("public counsel"), and (c) establishment of an organization controlled by consumers and funded by voluntary contributions. Of course, the Members who sponsored this bill have chosen a combination of the first two approaches. The third approach is not easily adapted to federal agencies so I will not address myself to it. I would like to examine the two approaches adopted in order to determine whether or not they are sufficient to fulfill the purposes of this bill in Section 102.

It is necessary to describe first the requirements for effective consumer representation. Whichever approach is selected should satisfy three tests:

- (1) It should be adequately financed for the purposes for which it is designed.
- (2) It should be independent of the regulatory body it is to appear before and the industry or industries it is challenging.
- (3) It should be dependent on its client or constituent--the consumer.

The selection of the public counsel concept can, depending on the funding level, satisfy the first test, but it often falls short on the next two. On the first test the funding is often inadequate because of frequent misconceptions as to what purposes such office is to serve. Many see "consumer interests" as being uniform and easily identifiable. I seriously question with that analysis since I believe there to be no monolithic "consumer interest". I think consumer interests are widely differentiated. It is necessary, in using the public counsel concept, to define clearly the constituencies the public counsel is to represent.

I found in the Office of Public Counsel in the Rail Services Planning Office of the Interstate Commerce Commission that the standard proposed here, that the parties "for whatever reason might not otherwise be adequately be represented," has worked reasonably well in the context of the rail reorganization. This standard has allowed the Public Counsel to evaluate problems in given states and localities and to act where he felt concerns were not being represented.

The second standard, independence, is often open to question, but I believe that this bill provides sufficient independence from the Federal Power Commission and the regulated industries.

The most serious defect of the public counsel concept is that even though the public counsel may have the freedom to determine what interests need protecting, he is virtually independent of those interests. His perceptions of the importance of issues in a given proceeding may be accurate or inaccurate. There is often no requirement that the public counsel even communicate with the public. I believe that it is critically important to make him dependent upon and responsible to his clients.

The concept of funding intervenor groups satisfies the three tests extremely well. If adequate funds are placed into the program, and this, of course, would depend on the given legislation, independence from the industry and from the Commission and the responsiveness to consumer interests are inherent in the intervenor group's initial formation, if they are bona fide intervenors.

This bill wisely uses both consumer funding in conjunction with a public counsel to cover the requirements for adequate consumer participation protection. I urge the Committee to retain this aspect of the bill and to reject arguments that the two proposals are mutually exclusive.

SPECIFIC COMMENTS

The provisions of the bill in Section 208 represent a positive step towards encouraging consumer participation in state regulatory agencies. I have personally worked

with consumer groups in many states and I find the effort to strengthen consumer participation in state agencies to be fairing rather poorly. The effort in this bill to promote such participation in circumscribed areas offers a healthy "nudge" to legislators and regulatory commissions to take the steps that need to be taken. I would suggest that, however, the provisions of Section 208 be clarified in the following respects.

The need for a consumer to show an "interest" in Section 208 as a requirement for qualification for award of costs under Section 208(b)(1) and (2) and to have the right to judicial review under Section 208(a)(2), should be more clearly defined. This word is often construed to mean that an individual group or a group must have a personal financial stake in the issues they wish to raise. It is also used to denote the intervenor's concern for specific issues. I would urge that the definition be clarified to mean that the intervenor must display a concern for certain issues that are the subject of the litigation and for which there may not be adequate representation. There should be no requirement of a financial or economic interest.

There is another requirement for the recovery of costs that is unnecessarily restrictive. To require in Section 208(b) (2)(B) that the issue litigated be "first raised" by the consumer may lead to injustice. The issue may have been "raised", albeit in an ineffective way, by staff members or

other parties to the proceeding without any substantial concern for that issue. The relevant question is whether the intervenor contributed to a full record, not whether the intervenor was "first" on the issue.

The enumeration of allowed costs in Section 208(b)(1) and (2) may be too limited. The costs enumerated under Subsection (b)(1) are attorneys' fees, witness fees and "other costs", and in Subsection (b)(2) they are defined as the cost of oral presentations, conducting cross examinations and making rebuttal submissions. If it is the intention of the drafters to limit reimbursement to those specific costs, I would strongly urge this approach be reconsidered. If an intervenor group has insufficient funds, but wishes to litigate issues necessary for an adequate record, they should not be limited to some costs and not others.

This principle is even more important with respect to the standards under Section 208 (b)(2). Frankly, talk is cheap. I have lost far too many cases in which I made "oral presentations," conducted "cross examinations" and made "rebuttal submissions". Without adequate discovery, analysis and testimony by experts, and litigation expenses, effective consumer participation will be severely curtailed.

The public participation provisions of Section 308 are extremely well conceived. I have some problem, however, with the Public Counsel being responsible for representing consumer interests, but the Commission being responsible for awarding litigation costs to intervenor groups. I would propose that since it is the Public Counsel's responsibility to determine what views "might not otherwise be represented" and to assist in such representation, he should also have the ability to award litigation expenses. I see no problem with a Public Counsel in a complicated rate litigation, after defining the position his office will take, encouraging and financing other responsible intervenors taking other positions that would be necessary for an adequate record. If any group disagrees with the Public Counsel's funding determinations, there should be recourse to the full Commission.

I would again raise the problem with the use of the word "interest" as determining who should receive litigation expenses. I also trust that it is not the sponsors' intention to limit such expenses to oral presentations, conducting cross examinations and making rebuttal submissions. Furthermore, allowing the Commission to pay up to \$1,000,000 a year evidently places this whole expense within the general Commission budget. I strongly urge

this Committee either to charge such expenses against the utility, which would, of course, recover them through its own rates, or to fund these reimbursement provisions directly.

Sections 401(a)(2) and 403 provide grants to states to encourage programs under Section 208(d)(2). I am uncertain whether those two provisions are duplicative or whether the "Director" referred to in Section 403 is the Director of the Office of Public Counsel. If the latter is the intention of drafter, I would strongly support this approach. I believe that the Office of Public Counsel of the Federal Power Commission, as well as the now established Office of Public Counsel in the Interstate Commerce Commission, could be of great assistance to states in promoting a consumer participation before their regulatory agencies.

Thank you.

Respectfully submitted,

John T. Schell, Esq.
1150 Connecticut Ave. N.W.
12th Floor
Washington, D.C. 20036
(202)457-1030

JOHN THOMAS SCHELL

Mr. Schell is a partner in the law firm of Peabody, Rivlin, Lambert & Meyers in Washington, D.C., and he resides with his family in McLean, Virginia. He holds a law degree from the University of Virginia and is admitted to practice before the bars of Virginia and the District of Columbia.

He has been active in all phases of general practice with major emphasis on corporate matters, antitrust and utility regulation. Recently he has been most heavily engaged in public utility regulation before state and federal agencies, primarily on behalf of public interest groups. He has been involved in over a half-dozen telephone and electric rate cases on behalf of consumers before the Virginia State Corporation Commission. He has, or is now engaged in representing consumer groups before the Public Service Commission of the District of Columbia, the Public Service Commission of the State of Maryland and the Public Utilities Commission of the Commonwealth of Pennsylvania. For over a year he has served as a consultant to the Interstate Commerce Commission in its Office of Public Counsel. This office was established by the Regional Rail Reorganization Act of 1973 to protect the interests of shippers, communities and other users of rail service who would not otherwise be represented in the reorganization of the Penn Central Railroad and other bankrupt carriers in the Northeast United States. He has also represented various groups before the Federal Power Commission and the Nuclear Regulatory Commission.

Prior to joining Peabody, Rivlin, Lambert & Meyers in 1972, Mr. Schell practiced as counsel to the Lieutenant Governor of Virginia, Henry E. Howell, Jr., and represented Mr. Howell in various consumer matters. His legal responsibilities also involved assisting the Lieutenant Governor in legislative matters in the Virginia General Assembly. He has also served as a consultant on the Virginia criminal justice and law enforcement systems; served in the Adjutant General's Corps of the United States Army; and engaged in a general civil and criminal legal practice in Charlottesville, Virginia, and surrounding counties immediately after leaving law school. In 1969 and 1970, he was an initial founder and Executive Vice President of The Research Group, Inc., Charlottesville, Virginia.

Mr. Schell was born in Birmingham, Alabama in 1935 and was educated at Huntsville High School, Huntsville, Alabama (graduated in 1953); Auburn University, Auburn, Alabama (B.A. History, 1957) and the University of Virginia Law School, Charlottesville, Virginia (J.D., 1970).

JOHN THOMAS SCHELL

Mr. Schell is a partner in the law firm of Peabody, Rivlin, Lambert & Meyers in Washington, D.C., and he resides with his family in McLean, Virginia. He holds a law degree from the University of Virginia and is admitted to practice before the bars of Virginia and the District of Columbia.

He has been active in all phases of general practice with major emphasis on corporate matters, antitrust and utility regulation. Recently he has been most heavily engaged in public utility regulation before state and federal agencies, primarily on behalf of public interest groups. He has been involved in over a half-dozen telephone and electric rate cases on behalf of consumers before the Virginia State Corporation Commission. He has, or is now engaged in representing consumer groups before the Public Service Commission of the District of Columbia, the Public Service Commission of the State of Maryland and the Public Utilities Commission of the Commonwealth of Pennsylvania. For over a year he has served as a consultant to the Interstate Commerce Commission in its Office of Public Counsel. This office was established by the Regional Rail Reorganization Act of 1973 to protect the interests of shippers, communities and other users of rail service who would not otherwise be represented in the reorganization of the Penn Central Railroad and other bankrupt carriers in the Northeast United States. He has also represented various groups before the Federal Power Commission and the Nuclear Regulatory Commission.

Prior to joining Peabody, Rivlin, Lambert & Meyers in 1972, Mr. Schell practiced as counsel to the Lieutenant Governor of Virginia, Henry E. Howell, Jr., and represented Mr. Howell in various consumer matters. His legal responsibilities also involved assisting the Lieutenant Governor in legislative matters in the Virginia General Assembly. He has also served as a consultant on the Virginia criminal justice and law enforcement systems; served in the Adjutant General's Corps of the United States Army; and engaged in a general civil and criminal legal practice in Charlottesville, Virginia, and surrounding counties immediately after leaving law school. In 1969 and 1970, he was an initial founder and Executive Vice President of The Research Group, Inc., Charlottesville, Virginia.

Mr. Schell was born in Birmingham, Alabama in 1945 and was educated at Huntsville High School, Huntsville, Alabama (graduated in 1963); Auburn University, Auburn, Alabama (B.A. History, 1967); and the University of Virginia Law School, Charlottesville, Virginia (J.D., 1970).

STATEMENT OF

GEORGE D. RIVES

BEFORE THE

SUBCOMMITTEE ON ENERGY AND POWER

OF THE

HOUSE INTERSTATE AND FOREIGN COMMERCE COMMITTEE

April 5, 1976

STATEMENT ON THE CONSUMER REPRESENTATION PROVISIONS
OF H. R. 12461 - THE ELECTRIC UTILITY RATE REFORM AND
REGULATORY IMPROVEMENT ACT

BEFORE THE

SUBCOMMITTEE ON ENERGY AND POWER OF THE HOUSE
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE

April 5, 1976

INTRODUCTION

My name is George D. Rives. I am a member of the law firm of Rives, Bonyhadi & Drummond, 1400 Public Service Building, Portland, Oregon. The firm is general counsel to Pacific Power & Light Company, an electric utility operating in Oregon, Washington, Wyoming, California, Montana, and Idaho. It is regulated with respect to rates and other matters by the commissions in each of those states and by the Federal Power Commission. I appreciate the opportunity to present this statement with respect to those provisions of H. R. 12461 which relate to consumer representation before the regulatory commissions and financial assistance to the state commissions. It is based upon my participation as counsel in many rate proceedings before state and federal commissions for more than twenty-five years.

The dismay and frustration felt by the public over the increases in electric rates which have taken place in the last couple of years is understandable and is a matter of grave concern to the electric utility industry. However, the electric utilities have no control over the increases in costs of fuel, construction and capital funds, which are the principal causes of the rate

increases. Nor do they have any control over the public demand for service, which they are obligated by law to meet.

For the past two or three years, their promotional efforts have been directed toward urging conservation and not toward increasing sales. Construction schedules have been trimmed to the extent deemed tolerable within the limits of the obligation to serve. Rate structures are being studied and experimented with to determine whether revision will encourage conservation and retard growth in peak demand. The effect of these efforts upon future load growth and the related need for new facilities, and upon investment and cost of service cannot be known for several years. At best, the long lead times required for planning new generation and transmission facilities will delay reflection in operating costs of any reductions realized in peak demand or load growth through rate structure changes or otherwise.

It would be illusory to base consumer representation legislation upon the premise that if only there were more consumer representatives actively and extensively participating in rate cases, utility rates would be lower. Rate increases will continue to be necessary so long as the current prices which utilities must pay for fuel, new plant facilities and capital funds continue to exceed their average imbedded costs for these items. The funding at public expense of the participation of special interest groups in rate proceedings is bound to attract intervention for the sake of delay and the furthering of social goals not properly a part of the ratemaking process. The consumer

representation provisions of Sections 208, 308 and Title IV of H. R. 12461 would, if made effective, result in additional expense and delay in rate regulation not in the long-run interest of the public.

SECTION 208(b) - COMPENSATION TO CONSUMER REPRESENTATIVES.

Section 208(b)(1) would make the electric utility liable to compensate a consumer for attorneys' fees, expert witness fees, and other litigation costs if the consumer prevails in a state rate proceeding of the utility. The consumer is deemed to have prevailed if the commission or a court disapproves or substantially modifies a rate proposed by the utility on grounds first raised by the consumer who alleged that the rate did not comply with one or more specific requirements of Title II of the Act. Paragraph (2) of Section 208(b) makes paragraph (1) inapplicable if the state has adopted an alternative means for providing adequate compensation to persons who have or represent an interest which would not otherwise be adequately represented in ratemaking proceedings, the representation of which is necessary for a fair determination of the proceeding, but who are unable to participate effectively by reason of financial disability.

The provisions of Section 208(b)(1) are similar to provisions for awarding attorneys' fees to private litigants in consumer protection suits. However, the nature of consumer protection litigation is substantially different from the nature of rate proceedings. The award of attorneys' fees to private liti-

gants in consumer protection suits has as its basis the support of law enforcement, achieved by encouraging private parties to litigate particular violations. The reasoning is that unless provision is made for attorneys' fees, the economic basis for such litigation would not be present, as the amount in controversy is often not great enough to support the expense of litigation.

By contrast, the making of utility rates is a legislative act, prospective in nature and permissive in effect. It is not a judicial determination of a past violation of law. In making utility rates, consumer protection is afforded by requiring the utility to obtain Commission approval before increased rates may be placed into effect. In proceedings to review proposed rates, different consumers or consumer groups will be representing their own special interests, which, while quite legitimate, are not necessarily in the public interest or consistent with what the law requires. In fact, what Title II of H. R. 12461 would require in any specific situation is what the Commission, subject to court review, determines to be required in the particular case and cannot be known until the decision is rendered.

The proposal to require the utility to reimburse consumer groups for litigation expenses would encourage litigation. It is recognized that the private attorney general concept, with award of attorneys' fees to successful plaintiffs, does encourage litigation in the consumer protection area. In fact, the encouragement of such litigation is a main purpose of the award of

attorneys' fees. In a time of rising costs, such as we have had in the past few years and face for the foreseeable future, it is to the advantage of any consumer group to delay the processing of rate increase proceedings for as long as possible. So long as there is no decision, there is no rate increase. The proposed allowance of litigation expenses would certainly encourage litigation for purposes of delay, and may reasonably be expected to be used for that purpose.

Section 208(b)(1) would award litigation costs to the consumer first alleging the grounds on which the commission or court modifies or disapproves a rate proposal for non-compliance with Title II. Counsel representing such consumer groups may be expected to be sophisticated and quite capable of taking full advantage of the proposed legislation. The obvious tactic would be to file, as quickly as possible after a rate filing is made by the utility, a petition to intervene in which every conceivable ground related to Title II is set forth. It would not be necessary for the consumer group to be the party responsible for the successful prosecution of any particular issue. It would not be necessary for the consumer group to show that its interest was not otherwise adequately represented or that representation of that interest was necessary for a fair determination of the case. It merely must be the first party raising a Title II issue on a proposal modified or disapproved by the Commission. This scheme would create a rush to intervene and to raise all conceivable issues related to matters covered by Title II in order to estab-

lish eligibility for attorneys' fees, witness fees and other litigation costs.

Unlike the ordinary consumer protection legislation, this proposal sets class against class in rate proceedings. Once the overall revenue requirements of the utility have been determined, any success which one customer group may have in reducing the portion of a rate increase to be borne by it must correlatively increase the portion to be paid by other customer groups.

The punitive factor involved in typical consumer protection provisions for private attorneys' fees is entirely missing from the rate proceeding. The utility has violated no law in proposing the change in its rates; on the other hand, it is following the prescribed statutory course. Whether the particular proposal made by it is lawful or not cannot be determined in advance of the conclusion of the rate proceeding. Even then, it involves the exercise of judgment by the commission on complex matters about which reasonable men may disagree. It bears no resemblance to the subject matter of typical consumer protection laws.

As pointed out, Section 208(b)(2) provides that the utility will not be required to compensate intervening consumers if the state or the state commission has provided an alternative means for adequate compensation to such persons. Section 403 of H. R. 12461 would authorize the Director of the proposed Office of Electric Utility Ratemaking Assistance to make grants to state commissions for the establishment and operation of consumer compensation programs under Section 208(b)(2). If Section 403 is

adopted and federal funds become available for state consumer compensation programs under Section 208(b)(2), it is doubtful that any state will be able to resist the pressure to establish a program which will qualify it for available federal funds. The more likely prospect, therefore, is federal funding of consumer intervention in state commission rate proceedings. The propriety of federal intervention in state commission proceedings to this extent is questionable. Certainly it should not be undertaken in the absence of clearly demonstrated need. In my opinion, there is no such need. The principal basis of my opinion is the function performed by the commission staff in the typical rate proceeding.

COMMISSION STAFF PROTECTION OF CONSUMER INTERESTS.

Rate cases involve two distinct phases. First, the commission must determine the overall revenue requirements of the utility. This involves a review of operating revenues and operating expenses, determination of the components of rate base and the fixing of a fair rate of return. In this phase, the commission staff takes an adversary position to that of the utility and challenges the utility's claim for rate relief in all material aspects. Staff representation is through an attorney, assisted by accounting, engineering and economic personnel from the staff, as well as by outside consultants who may be employed for the particular case. Consumer groups who interest themselves in this phase of the case are generally allied with the staff and

against the utility.

The second phase of the rate case involves the rate structure, i.e., the manner in which the revenue requirements of the utility will be spread among the various consumers or classes of consumers. The staff is also active in this phase and challenges the manner in which the utility proposes to spread the increase among various customer classes. In my experience, commission staffs have been particularly concerned over the proportion of rate increases assessed against the residential class of customers. They represent by far the largest segment of the public served by the utility; their aversion to rate increases is well known; and their sheer numerical dominance of the body politic makes commission staffs and commissions as well keenly aware of their existence and interests.

Customer groups also appear in state commission cases, at varying levels of participation, from mere statements of opposition to the proposed increases, to highly organized technical opposition with able counsel and expert witnesses. Municipalities often appear on behalf of their residents. Customarily, in addition to its own cross-examination of utility witnesses and presentation of direct evidence, the commission staff provides technical assistance to customer groups requesting it. Even where their participation is not on a technical level, customer groups focus the attention of the commission on their position, and the weight of their views does not go unnoticed.

In view of the importance of commission staff participation

in the ratemaking process, it is important to utilities and their customers alike that the staffs be adequate for the purpose. As my own experience is limited to a few states, I can only say that within the limits of that experience, the staffs have proved to be quite competent and adequate to provide a thorough challenge to the revenue and rate structure proposals of the utilities. It is also true that throughout the country, utilities have not enjoyed windfall profits as a result of the substantial rate increases granted in the last two or three years. Earnings available for the common stockholders of electric utilities generally declined sharply in 1974 and 1975, with some recovery in more recent months toward pre-1974 levels. The market price of most electric utility common stocks dropped well below book value and many of them remain below book value today. Rate regulation has certainly not been a failure in the sense that the commissions have allowed the utilities to earn too much.

SECTION 402 - GRANTS TO IMPROVE STAFFING.

The funding of commission staff participation in rate cases is provided in an important degree by the utilities themselves, either through annual assessments, or by special assessments related to particular cases, levied by the state commissions themselves. In some instances, the employment of outside consultants to assist the commission staff is charged against the utility involved in the particular case. Attached as Appendix A is a copy of Table 75 from the 1974 Annual Report on Utility and

Carrier Regulation of the National Association of Regulatory Utility Commissioners (NARUC). This table indicates those commissions which have authority to assess fees and costs against the utilities they regulate. It also shows the sources from which commission expenditures in the last fiscal year were made. In only fifteen states did 100 percent of commission expenditures come from general tax funds. In eighteen states, taxes and fees levied against utilities provided 100 percent of commission expenditures. In sixteen states the expenditures were met partially out of general tax funds and partially out of fees assessed against utilities. Only sixteen states indicated that some increase in budget was necessary. Thus, this table indicates that a large portion of regulatory commission expenditures are assessed against the utilities themselves and that two-thirds of the state commissions consider that their current sources of funds are sufficient.

Representation of consumer interests before state commissions is not confined to the staffs of the commissions themselves. Attached as Appendix B is a copy of Table 85 from the NARUC 1974 Annual Report on Utility and Carrier Regulation, which is entitled "Representation of Consumer Interests Other Than by Regulatory Agency". This table shows that consumer representation is provided by state governmental personnel other than those of the commission staff in 41 states. Such representation is by the attorney general in 23 states. The table does not indicate in how many of these states the attorney general provides the legal

representation for the commission staff as compared with having that function performed by attorneys on the commission staff. In any event, in quite a number of states there are consumer agencies wholly separate from the state commission; and the office of the attorney general is in all cases independent of the state commission. Consumer representation cannot fairly be said to have been neglected by the states.

Nor is there any dearth of appearances by consumer groups in state commission rate cases. Appendix C is a summary of interveners appearing in a cross section of eleven recent electric utility rate proceedings before the regulatory commissions of California, Connecticut, the District of Columbia, Idaho, Michigan, New Mexico, New York, North Carolina, Oregon and Wisconsin. A review of lists of appearances in recent reported electric utility rate decisions in Public Utility Reports will show that these are representative.

The extent to which regulatory commission funding is inadequate in any state should be, at least in the first instance, a matter for the state involved. If funding is deemed inadequate, the means to remedy the problem lie within the control of the state. It is against this background that we consider the provisions of Section 402 of H.R. 12461.

Section 402 authorizes the Director of the proposed Office of Electric Utility Ratemaking Assistance to make grants to assist any state commission in improving its staff capacity to effectively regulate electric utilities. Before a grant may be

made, the director must determine that the commission requires additional staff in order to effectively carry out its regulatory authority; and that it agrees to institute a system for collecting fees from every electric utility subject to its jurisdiction or otherwise secures the funds to maintain the additional staff made possible under the grant, following expiration of the grant. No grant may be made after September 30, 1980. Section 406(1) authorizes up to \$30 million to be appropriated in any fiscal year for grants to state commissions under Section 402. However, no state may receive any grant unless it has prescribed standards satisfactory to the Director governing the procedures by which electric utilities require and preserve money deposits by electric consumers, perform estimated billings for electric consumers and terminate service to electric consumers. What will constitute satisfactory state commission standards is left solely to the discretion of the Director.

Appendix A casts considerable doubt upon the need for federal funding of state commissions. Certainly there should not even be a statutory scheme for such funding unless there is a need which the states cannot meet. For the proposal clearly raises serious problems. One is the equitable distribution of the federal funds among the various state commissions. How is the Director to determine the relative need for additional funds? How will expenditures be monitored to make certain they are used only in regulating electric utilities, as contemplated by Section 402? What will satisfy the Director with respect to

procedures applicable to customer deposits, estimated billings and termination of service? The state commission will be required to surrender its jurisdiction over such matters to the Director as the price of receiving federal funds. Yet it will be under extreme pressure to seek "its share" of such funds, because state and local governmental bodies abhor unused federal grants as nature abhors a vacuum. Nevertheless, if a need is shown for additional financial support to staff state regulatory commissions which cannot be provided by the states involved, federal assistance may be the only alternative. However, there should be a clear demonstration of that need before federal assistance is enacted into law.

SECTION 308 - REPRESENTATION OF CONSUMER INTERESTS

Section 308 would establish a new independent office in the Federal Power Commission, to be known as the Office of Public Counsel. The functions of the Office of Public Counsel would not be confined to matters related to the provisions of H. R. 12461. The Office is given standing to become a party to any proceeding before the Commission and may petition the Commission for initiation of proceedings on any matter within the Commission's jurisdiction. It may also seek judicial review of any Commission action to the same extent that any person may do so. The Office is required to solicit, study, evaluate and present before the Commission the views of those communities and users of service affected by proceedings before the Commission whenever the Direc-

tor of the Office of Public Counsel determines that the community or user might not otherwise be adequately represented before the Commission. The Office is also required to evaluate and represent [the public interest] before the Commission and other federal agencies when their policies and activities significantly affect public utility matters subject to the jurisdiction of the Commission; and by other means to assist the constructive representation of the public interest in safe, efficient, reliable and economical public utility services.

The functions assigned to the Office of Public Counsel would largely duplicate functions already performed by the Office of the General Counsel of the Commission and the accounting, engineering, economic and other staff personnel of the Commission. The proposed creation of the Office of Public Counsel implies that the public interest and the interests of various communities and users are not adequately represented in proceedings before the Commission. However, no finding to that effect is included among the ten findings set out in Section 101 of H. R. 12461 and the available evidence appears to be to the contrary.

As a practical matter, the jurisdiction of the Federal Power Commission over electric rates is limited to wholesale rates for power and energy and transmission services supplied by one utility to another. With few exceptions, utilities supplying wholesale service to other utilities also supply retail service to the public and in most cases, the retail sales constitute by far the largest segment of the business of the supplier. During 1973,

less than 9% of the total operating revenues of Classes A and B electric utilities was derived from sales of electricity at wholesale.

Wholesale rate increases must be filed with the Federal Power Commission under Section 205 and are subject to suspension and investigation. Most such cases of any magnitude are the subject of protests and intervention by the wholesale customers involved. In many cases, several customers are affected by the same rate increases. Typically, they join in groups represented by common counsel and expert witnesses.

New England Power Company, unlike most utilities subject to the rate jurisdiction of the Federal Power Commission, receives most of its revenues from wholesale sales to other utilities. For this reason, a summary of interveners actively participating in the rate proceedings which it currently has pending before the Federal Power Commission is revealing on the question of adequacy of consumer representation before that body. Attached as Appendix D is a summary of the interventions in these current proceedings. This summary clearly shows active and extensive participation by counsel and expert witnesses on behalf of wholesale customers of New England Power Company.

Nor is the New England Power Company experience unique. An examination was made of the parties participating in 132 rate increase dockets assigned for hearing by the Commission between 1970 and early 1976, these being all for which service lists were readily available at the Federal Power Commission. There were

interveners in all of the 132 dockets. The interveners were represented by counsel in all except two dockets. In about 90 percent of the cases, there were two or more wholesale customer interveners and in many, there were two or more separate counsel representing different wholesale customers or customer groups. The same law firms represent interveners in many of the cases, indicating both an expertise in the field and a thorough knowledge of the operations of both the suppliers and the purchasers. Expert witnesses are commonly employed to assist counsel and to present direct evidence in such cases. There would seem to be extensive representation of the customers' interest in Federal Power Commission wholesale rate proceedings.

In addition to rate cases of individual utilities, the Federal Power Commission from time to time conducts rule-making proceedings on issues which affect the making of rates in individual cases. Examples of such issues are: use of future test years, use and provisions of fuel adjustment clauses, interperiod allocation of income taxes (normalization) and inclusion of construction work in progress in rate base. The interests of consumers are substantially represented in such proceedings, as evidenced by the summary of consumer and public agency groups represented in recent and pending rule-making proceedings attached as Appendix E.

In addition, in all rate proceedings, the staff of the Commission takes an active role through its counsel and accounting, economic and engineering experts. The regulated utility's

proposal is subjected to critical and thorough examination, often with extensive discovery proceedings, by both the Commission staff and the complaining or intervening customer utilities. It is difficult to see how the participation of still another party, in duplication of the role played by the Commission staff, and in addition to the interveners, could contribute anything except delay and additional expense to the entire process.

In this connection, the views expressed by Franklin D. Roosevelt, as Governor of New York, in his veto of an act to create the office of People's Counsel to represent the public before the New York Public Service Commission, is of interest. His veto message of April 22, 1930, a copy of which is attached as Appendix F, included the following pertinent observations:

"The entire purpose of this bill is based upon a fundamentally false conception of the proper function of a public service commission. Public service commissions were originally adopted, in this and other states, for the purpose of carrying out certain duties in connection with utility companies theretofore performed by the various legislatures. These duties, in essence, are to see that public utility companies furnish to the consuming public adequate service at fair and reasonable rates, and to protect legitimate investors in utility securities. The Public Service Commission has taken these legislative functions over. It is not, and never has been, merely a court. It is rather intended to represent the public interest in connection with various industries of a semi-public character subjected to its jurisdiction.

* * *

"The functions of the 'People's Counsel' provided for in this bill should be exercised by the Commission through its own counsel, assistant counsel, or any other employees whom it wishes to designate therefor."

Section 308 of the Bill provides that in the performance of

its duties, the Office of Public Counsel shall assist the Commission in the development of a "public interest record" in proceedings before the Commission. The meaning of this phrase is not clear. It carries an implication that records currently developed before the Commission are not "public interest records," an implication probably not intended and for which no support is suggested. The development of an adequate record in an administrative proceeding is a matter of proper concern. An adequate record is one which contains sufficient competent and relevant evidence to provide a basis for rational decision of the issues presented. Such a record will, by definition, be a "public interest record" in the sense that the administrative body will thereby be enabled to weigh all relevant and material interests and arguments in reaching its decision. The development of such a record is a responsibility of the Commission and its staff. Absent some evidence that this responsibility is not being discharged, it would be a waste of taxpayer funds and of ratepayer funds to duplicate the work of the Commission staff through an Office of Public Counsel.

As noted, Section 308 is entitled "Representation of Consumer Interests". However, the word "consumer" does not appear in the text of Section 308 and it is not clear just what consumers' interest are to be represented by the Office of Public Counsel. In the Federal Power Commission context, the immediate customers are public utility systems which purchase electricity from the supplying system. "Electric consumer" as defined in

Section 103(a)(2) of H. R. 12461 would include the retail customers of the system purchasing at wholesale and the retail customers of the supplying utility whose wholesale rates are at issue in a Federal Power Commission rate proceeding. Usually, the same generating and transmission facilities which the supplying utility uses in providing service to its own retail customers are also used in supplying wholesale service to other utility systems. Allocations must be made of rate base and operating expenses between the wholesale sales and the retail sales. The total revenues from both types of sales must cover the overall revenue requirements of the supplying utility. It is not necessarily in the public interest that such allocations be made in a manner favored by the purchasers at the wholesale level, nor would it necessarily be in the public interest for an agency such as the Office of Public Counsel to advocate the position taken by the purchasers at wholesale or their retail customers on such matters. How could the same Office of Public Counsel purport to represent "the public interest" when the respective interests of major segments of the public are inherently in conflict? Ultimately, the contest is not between the supplying utility and the purchasing utility, but between the retail customers of the supplying utility and the retail customers of the purchasing utility. It is not proper for the Federal Government, through an Office of Public Counsel, to assume the role of advocate in such a situation.

Section 308 also authorizes the Commission to provide

compensation for reasonable attorneys' fees, expert witness fees and other costs of participating in any proceeding before it to any person having an interest not otherwise adequately represented in the proceeding, if representation of that interest is necessary for a fair determination of the proceeding and if the person is unable to bear the costs of effective participation. Up to \$1,000,000 could be paid in any fiscal year for this purpose, apparently out of the Commission's budget.

It may be observed that there is no finding in H. R. 12461 that the legitimate interest of any person or group of persons in proceedings before the Commission is not now adequately represented. Unless and until that is demonstrated, there is no basis for having the Commission pay the litigation expenses of some of the parties that appear before it. As already pointed out, wholesale customers are actively and adequately represented in Federal Power Commission rate proceedings. All of the conceivably material issues that could be raised are being raised. The prospect of compensation can only invite and encourage participation in these already lengthy proceedings by groups having nothing to contribute to the regulatory process except delay and added expense.

Yet with this provision in the statute there would inevitably be strong pressure upon the Commission to make some use of it. Doubts with respect to the relevance and adequacy of representation of an asserted interest could be expected to be resolved in the direction of financing additional interventions, at the

ultimate expense of the public. In any event, if an Office of Public Counsel were established, by definition there could be no basis for the proposed compensation to interveners. If the interest is one whose representation is necessary to a fair determination of the case, but is not already adequately protected by the Commission staff's participation or represented by one of the many currently active interveners, presumably Public Counsel would represent that interest.

CONCLUSION

The substantial increases in electric rates during the past two or three years cannot be attributed in any way to inadequacy of the representation of consumer interests at either the state or the federal level. There is no need to encumber the ratemaking process with utility-financed or federally-financed interventions, either by special interest groups or by a federal office, such as the proposed Office of Public Counsel or Director of the Electric Utility Ratemaking Assistance Office. Absent a demonstration of need which cannot be financed by the states, the federal government should not undertake the financing of state commission staffs. Sections 207(b), 208, 308 and Title IV of H. R. 12461 should not be enacted.

SECTION V

APPENDIX A
581

ASSESSMENT OF COSTS OF REGULATION

This Section contains information on the assessment of costs of regulation and the annual budget of the regulatory commissions.

The ability of the commissions to assess the cost of regulatory activities against the regulated utilities within their jurisdiction is shown in Table 75. Only 16 of the commissions listed receive 100 percent of their funding from general tax receipts. The other commissions receive at least part of their budget requirement from levies and charges made against the activities they regulate.

The annual budget of the various commissions--receipts and expenditures--is listed in Table 76.

Table 75 - MEASUREMENT OF COSTS OF REGULATION

AGENCY	The Commission has authority to assess -		The current appropriation is sufficient to finance the operation of the Commission	When negative - the percentage of budget increase deemed necessary	Percent of Commission expenditures in last fiscal year paid from -					
	Cost of special investigation	Fees in connection with special investigations and proceedings (including counsel and experts)			General tax funds		Fees and fees specifically levied on utilities for general regulatory purposes		Fees and charges for specific investigations or special investigations	
					Amount (Thousand)	Percent	Amount (Thousand)	Percent	Amount (Thousand)	Percent
FERC ROC					28,255 2/	100				
					46,900 21/	100				
ALABAMA PSC	X				641	100	610	100		
ALASKA PSC	X	X	X		672					
ALASKA TO										
ALBERTA PUB 1/										
ALBERTA CC 6/			X		1,156	100				
ARIZONA PSC							438	100		
ARIZONA TO					648 5/	100				
CALIFORNIA PSC	X 12/		X		9,334 755	55.3 54.8	574	43.2	7,544	44.7
COLORADO PSC										
CONNECTICUT PSC 1/										
DELAWARE DOT 14/	X	X		100%						
DELAWARE PSC 1/					519.7		218.7		251	
D.C. PSC	X	X 5/	X				2,081	100		
FLORIDA PSC	X		X		969	63	560	37		
GEORGIA PSC 13/										
HAWAII PSC 6/					581	100				
IDAHO PSC 5/					100	29.75	237	70.25		
ILLINOIS PSC	X		X	21%	658	100	3,514.2			
INDIANA PSC	X	X					737 2/	77	219	23
IOWA PSC										
KANSAS PSC	X	X	X		166	100			307	
KANSAS TO							450			
KENTUCKY DOT 1/	X			50%			450	100		
KENTUCKY SC 1/										
LOUISIANA PSC	X	X	X	8/	0		372 10/	53	300 2/	47
MAINE PSC 10/						100		100		
MAINE TO							11/			
MASSACHUSETTS DRU 5/	X	X	X 12/		515	10	1,912	37	215	4
MINNESOTA PSC										
MINNESOTA PSC 12/	X	X			545		100		2,114	
MISSISSIPPI PSC	X		X		65	4	600	41	50	3.4
MISSOURI PSC	X			25%			1,486	61	612	23
MONTANA PSC 6/	X 13/			30%	1,200	100		100		
NEBRASKA PSC										
NEVADA PSC			X		0		808	70	300	30
NEW HAMPSHIRE PSC	X	X		25%	262		262	100		
NEW JERSEY PSC	X	X	X		63	3	3,622	97.9	79	2.1
NEW MEXICO PSC				20% 16/	232	100				
NEW MEXICO TO					1,209					
NEW YORK DOT 1/										
NEW YORK PSC	X	X	X	12/			17,262	100		
NORTH CAROLINA PSC				14.8%	1,008	100				
NORTH DAKOTA PSC	X	X		24%	755	100				
OHIO PSC	X	X	X	30%	0	0	3,446	100	0	0
OKLAHOMA PSC			X		21/	21/				
OKLAHOMA TO 1/					30	1	3,122	28		
OREGON PSC	X		X				4,134 19/	100		
PENNSYLVANIA PSC	X	X		15%	1,717	97			50	3
PENNSYLVANIA TO										
RHODE ISLAND DOT 5/			X 12/		125	53	116	47		
RHODE ISLAND TO			X				818	81		
SOUTH CAROLINA PSC				50%		100	1,742	100		
TENNESSEE PSC			X							
TEXAS AC 1/										
UTAH PSC 5/			X				4,984	100		
UTAH TO			X				248	87.4		
VIRGINIA PSC	X	X		8%			375	54	102	12.6
VIRGINIA TO	X	X	X		709	11	1,052	16		
VERMONT PSC	X	X		100%	43	60	24	30	60	
VERMONT TO										
WASHINGTON PSC	X	X	X				731	25		
WASHINGTON TO			X				1,537	100		
WASHINGTON PSC	X	X	X		648	27	1,618	64	214	9
WASHINGTON TO	X 10/		X				428	95		

Footnotes - Table 75 - ASSESSMENT OF THE COSTS OF REGULATION

- 1/ No response to 1974 Survey.
- 2/ All expenditures of the PFC are made from the annual appropriation.
- 3/ No specific statute on this matter.
- 4/ Fees are assessed against rail and motor carriers to finance operation of Arkansas TC.
- 5/ Not for consumer counsel.
- 6/ 1973 data; no response to 1974 Survey.
- 7/ The entire \$956,000 is assessed back to the utilities operating in Iowa on a gross revenue basis. The payment of their direct assessments is then refunded to the State of Iowa General Fund. Taxpayers in Iowa therefore do not pay any tax dollars in utility regulation. The amount shown is a remainder assessment.
- 8/ Budget increase 8.02% for general increase in cost.
- 9/ With the aid of legislation passed in 1972, this commission intends to operate entirely from self generated revenues for fiscal year 1972-73.
- 10/ Does not include the Transportation Division which is self supporting under dedicated revenues.
- 11/ A fund of \$250,000 will be available commencing in 1973. Special tax levied on gas, electric and telephone companies primarily to finance consumer representation in rate proceedings.
- 12/ Commission must operate within limits of appropriation; request has been made during last 5-8 years for larger appropriation.
- 13/ This money is deposited directly into the General Fund and is not credited to the Public Service Commission. (Footnote deleted for 1974)
- 14/ Began regulation in July, 1974.
- 15/ If office is out of state.
- 16/ Current appropriation adequate for customary expenditures, but due to new problems arising from additional responsibility given us by the legislature we will be required to retain specialists in the ecology field as well as training out present staff in this new field.
- 17/ Commission operates within appropriation. To do its job properly, commission appropriation should be trebled.
- 18/ Hearing costs taxed against "parties in interest".
- 19/ Figures are for fiscal year ending June 30, 1974. Funds from utility assessments are paid into the state treasury. The Georgia PSC operates completely on an appropriation.
- 20/ Entire commission expenditures are paid from advanced assessment on utilities regulated, in accordance with Act 33, March 3, 1972, which amended Section 1201 of the Public Utility Law.
- 21/ This is annual appropriation for all Commission activities including the regulation of communication common carriers.
- 22/ In 1974, gas and electric regulation were established with all costs assessed to the utilities. In 1974, the telephone law was amended so companies can be charged for all costs of special investigations.
- 23/ Approximately one-half of agency operations financed by levy on oil and gas production.

APPENDIX CAPPEARANCES BY CONSUMER REPRESENTATIVES IN
ELECTRIC UTILITY RATE INCREASE HEARINGS1. Re Potomac Electric Power Company, 11 PUR4th 215

(District of Columbia Public Service Commission). Interveners included:

Office of People's Counsel
 Department of Highways and Traffic
 District of Columbia Government
 All-Electric Customers of the District of Columbia
 Apartment and Office Building Association of Metropolitan Washington, Inc.
 Consumers Urging Rate Equity
 D.C. Power
 Friendship House
 General Services Administration
 League of Women Voters
 All Souls Unitarian Church
 Washington Public Interest Organization

2. Re The Hartford Electric Light Company, 6 PUR4th 209

(Connecticut Public Utilities Commission 1974). Interveners included:

City of Hartford
 The Naugatuck Valley Industrial Council, Inc.
 Conning and Company
 Hartford Consumer Activists Association
 Connecticut Business & Industry Association
 Town of Montville
 Connecticut Council of Senior Citizens
 Connecticut Society of Gerontology
 Connecticut UAW-Community Action Program Council
 Connecticut Citizens Action Group
 Manufacturer's Association of Hartford County, Inc.,
 Berkshire-Litchfield Environmental Council, Inc.
 Investment Management Group, Inc.

3. Re Detroit Edison Company, 7 PUR4th 113 (Michigan Public Service Commission 1974). Interveners included:

Attorney General of the State of Michigan
 The Environmental Defense Fund, Inc.
 West Michigan Environmental Action Council
 Michigan UAW-CAP
 General Motors Corporation
 Great Lakes Steel Division, National Steel Corporation
 McLouth Steel Corporation
 Jones & Laughlin Steel Corporation
 Chrysler Corporation
 Monsanto Company
 City of Grosse Pointe Park
 City of Grosse Point Woods
 City of Ferndale
 City of Detroit
 County of Wayne

4. Re Idaho Power Company, 7 PUR4th 155 (Idaho Public Utilities Commission 1974). Interveners included:

Grindstone Butte Mutual Canal Company
 Farm Development Corporation
 Idaho Irrigation Pumpers Association, Inc.
 Idaho Consumer Affairs, Inc.

5. Re Public Service Company of New Mexico, 7 PUR4th 166 (New Mexico Public Service Commission 1974). Interveners included:

Southwest Research and Information Center, Inc.
 New Mexico Citizens for Clean Air and Water, Inc.
 City of Gallup
 Southwest Valley Area Council
 Santa Fe Senior Citizens Advisory Board
 Incorporated County of Los Alamos

6. Re Duke Power Company, 7 PUR4th 239 (North Carolina Public Utilities Commission 1974). Interveners included:

Great Lakes Carbon Corporation, Inc.
 North Carolina Public Interest Research Group, Inc.

North Carolina AFL-CIO
 Duke University
 North Carolina Consumer Council, Inc.
 Chemstrand Research Center, Inc.
 Senior Citizens Club of Winston-Salem

7. Re Consolidated Edison Company of New York, Inc.,

8 PUR4th 475 (New York Public Service Commission 1975). Interveners included:

City of New York
 New York City Housing Authority
 State of New York
 General Services Administration
 U. S. Environmental Protection Administration
 American Telephone & Consumers Council
 United Home Owners for Fair Electric Rates, Inc.
 Cold Storage Warehouse Industry
 Local 169 Amalgamated Clothing Workers Union of America
 GET Consumer Protection, Inc.
 Harlem Consumer Education Council
 Metropolitan New York Consumer Council
 Citizens Committee of Inquiry

8. Re Long Island Lighting Company, 9 PUR4th 21 (New

York Public Service Commission 1975). Interveners included:

County of Nassau
 Towns of Hempstead, North Hempstead and Oyster Bay
 Cities of Glen Cove and Long Beach

9. Re Wisconsin Electric Power Company, 9 PUR4th 204

(Wisconsin Public Service Commission 1975). Interveners included:

City of Milwaukee
 State Board on Aging
 Milwaukee County Commission on Aging
 Citizens for Public Energy
 Allied Council of Senior Citizens of Wisconsin, Inc.
 Center for United Labor Action
 League Against Nuclear Dangers
 Building Owners and Managers Association
 Machinists Union Local 1862
 Milwaukee Central City Consumer Council
 American Federation of Concerned Consumers
 Milwaukee Tenants Union

10. Investigation of Reduced Rates for Energy Consumed
by Certain Persons (Public Utility Commissioner of Oregon 1976).

Seven utilities participated. Interveners included:

Legal Aid Service of the Multnomah Bar Association
Oregon Committee for Progress through Law
Oregon State Council of Senior Citizens
Oregon Student Public Interest Research Group
Oregon Committee for Fair and Equitable Utility Rates

11. Application of Pacific Gas and Electric Company,
for authority to increase its rates for electric, gas, and steam
service (Public Utilities Commission of the State of California,
Applications Nos. 54279, 54280 and 54281). Interveners included:

Toward Utility Rate Normalization
Consumer Federation of California
Consumers Cooperative of Berkeley
Consumers United, Inc.
Diablo Valley Consumer Action
Alameda County Consumer Action
American G.I. Forum
League of United Latin American Citizens
National Organization for Women
Black Women Organized for Action
NAACP Western Region
Environmental Defense Fund
San Francisco Consumer Action
City of Berkeley
City of Foster City
City of Palo Alto
Consumers Arise Now
Electricity and Gas for People

APPENDIX DRECORD OF INTERVENTIONS IN NEW ENGLAND
POWER COMPANY PENDING CASES BEFORE THE FPC

In addition to activity by the F.P.C. Staff, a review of NEP's R-6 through R-10 cases indicated activity on behalf of the following parties:

(1) R-6 Docket E-7700

Active -
submitted
evidence
and briefs

- A) Rhode Island Consumers' Council and Rhode Island Public Utilities Commission
Represented by - Dennis J. Roberts II
Roberts & Willey, Inc.
Ten Dorrance Street
Providence, Rhode Island 02903

Consultants: Hess & Lim, Inc.
5809 Annapolis Road
Hyattsville, Maryland 20784

(evidence by James Lim on cost of service and by Aarne Hartika on deferred taxes)

Active -
submitted
evidence
and briefs

- B) Municipal Customers (power planning committee of the Municipal Electric Association of Mass., Inc.; 23 Municipal Electric Plants and Departments; Manchester Electric Company; and the New Hampshire Electric Cooperative, Inc.)
Represented by - Spiegel & McDiarmid
2600 Virginia Avenue, N.W.
Washington, D.C. 20037

Consultants: Van Scoyoc & Wiskup, Inc.
1015 Eighteenth Street, N.W.
Washington, D.C. 20036

R. W. Beck & Associates

(evidence by Alexander E. Wiskup on rate of return, cost of service and cost allocation; by William R. Black on cost of service; and by Edgar H. Bernstein on rate of return and cost of equity - all of Van Scoyoc & Wiskup - evidence by Robert G. Taylor of R. W. Beck on facilities interconnection.)

- C) Staff was represented by William Mattingly, F.P.C. Staff Counsel. Evidence was presented by Gordon R. Murdock on cost of service, Donald A. Murrey on cost of capital, and William G. Longenecker on cost of service

Major issues in the R-6 proceeding were

- (1) NEP's fuel clause design
- (2) Rate design - Switch of muni's from full to partial requirements customers in light of their purchase of entitlements, sub-transmission charges, metering adjustments for losses beyond standard delivery point, energy rates.
- (3) Tax normalization

Case was settled with only tax normalization issue reserved for Commission decision.

- (2) R-7 and R-8 (Consolidated) Dockets E-8251 and E-8641

- A) Massachusetts Municipal Customers and NEPCO Customer Rate Committee

Active -
submitted
evidence
and briefs

Represented by - Spiegel & McDiarmid
2600 Virginia Avenue, N.W.
Washington, D.C. 20037

Consultants: Van Scoyoc & Wiskup, Inc.
1015 Eighteenth Street, N.W.
Washington, D.C. 20036

(evidence by William R. Black on cost of service and Alexander E. Wiskup on rate of return)

- B) Rhode Island Consumers' Council and Rhode Island Public Utilities Commission

Active -
submitted
evidence
and briefs

Represented by -
(RICC) - Dennis J. Roberts II
Roberts & Willey, Inc.
Ten Dorrance Street
Providence, Rhode Island 02903

(RIPUC) - Gregory L. Benik
Rhode Island Dept. of Attorney
General

Consultants: Hess & Lim, Inc.
5809 Annapolis Road
Hyattsville, Maryland 20784

(evidence by Aarne Hartika on
cost of service.)

- C) F.P.C. Staff was represented by Mark G. Magnuson,
Staff Counsel

(evidence was presented by Gordon R. Murdock on
cost of service, William Hutt on rate of return,
and Ralph E. Loomis on cost of service)

(3) R-9

Docket E-9140

- A) Massachusetts Municipal Customers and NEPCO
Customer Rate Committee

Represented by - Spiegel & McDiarmid
312 Watergate Office Building
2600 Virginia Avenue, N.W.
Washington, D.C. 20037

Consultants: Van Scoyoc & Wiskup, Inc.
1015 Eighteenth Street
Washington, D.C. 20036

(evidence presented by William R.
Blck on cost of service and
John F. Hennigan on rate of return)

- B) Rhode Island Consumer's Council and Rhode Island
Public Utilities Commission

Represented by -

(RICC) - Dennis J. Roberts II
Roberts & Willey, Inc.
Ten Dorrance Street
Providence, Rhode Island 02903

(RIPUC) - R. Daniel Prentiss
Rhode Island Department of Attorney
General

Consultants: Hess & Lim, Inc.
5809 Annapolis Road
Hyattsville, Maryland 20784
and
J. W. Wilson & Associates
308 Watergate Office Building
2600 Virginia Avenue, N.W.
Washington, D.C. 20037

(Ralph E. Miller of J. W. Wilson & Associates presented evidence on rate of return)

- C) F.P.C. Staff was represented by Barbara Weller, Staff Counsel. Gordon R. Murdock presented evidence on cost of service and William Hutt presented evidence on rate of return.

(4) R-10 Docket ER76-304

The following parties have intervened in this proceeding:

- (1) Massachusetts Municipal Customers, NEPCO Customer Rate Committee, Manchester Electric Company and New Hampshire Cooperative, Inc.
- (2) Rhode Island Public Utilities Commission and Rhode Island Consumers' Council
- (3) Congressman Michael J. Harrington
- (4) Green Mountain Power Corporation
- (5) Francis X. Bellotti, Attorney General of Massachusetts

FPC RULEMAKING

Consumer and public agency groups have been represented in key Rule-making proceedings at the Federal Power Commission relating to rate matters. For Example:

- A. Docket R-463, Filing of Electric Service Tariff Changes (particularly use of future test years). Eighty-seven respondents, including governmental power agencies, throughout the country, filed comments. In addition, five law firms appeared, including: Duncan & Brown representing three municipalities in Delaware and one in Indiana; Northcutt Ely representing six municipalities in Virginia, Virginia Polytechnic Institute, State University, and Texas-Louisiana Electric Co-op; George Spiegel representing eight municipalities in California, municipal electric associations in Florida, Indiana, the Midwest, Massachusetts and Ohio, Northeast Public Power Association, Northern Michigan Electric Co-op, Northern California Power Agency, New Hampshire Electric Co-op, and the Electric Board of Frankfort, Kentucky; George E. Morrow representing 13 municipalities in Indiana and 3 in Michigan.

Following issuance of Order 487, July 17, 1973 and denial of applications for rehearing, the following filed petitions for review by the Court of Appeals for the District of Columbia: American Public Power Association by Spiegel & McDiarmid; various municipal light departments in California, Florida, Kentucky and Massachusetts, New Hampshire Electric Co-op, Northern Michigan Electric Co-op, and municipal electric associations in Indiana, the Midwest, Massachusetts and Ohio, the Northeast Public Power Association, and the Northern California Power Agency by Spiegel & McDiarmid; and, with respect to Northern California Power Agency, by Martin E. McDonough; and for six cities and towns in Virginia, and the Virginia Polytechnic Institute, the State University, and the Texas-Louisiana Co-op, by Northcutt Ely and associates.

- B. Docket R-479, Fuel Adjustment Clauses in Wholesale Rate Schedules. In response to the original notice published June 21, 1973, comments in addition to those submitted by investor-owned utilities included submissions by the Georgia Municipal Association, twenty-four municipally-owned electric systems in California, Florida, Kentucky and Massachusetts, the Northern California Power Agency, the Public Service

Commissions of Colorado and New York, the American Public Power Association, the Electricities of North Carolina, the National Coal Association and the U.S. Environmental Protection Association. At a public conference on the subject held April 16, 1974, in addition to investor-owned utilities there were present: American Public Power Association, National Rural Electric Cooperative Association, 23 publicly owned electric systems, and the Maryland Public Service Commission. The matter was renoticed August 6, 1974 and comments thereon were received from investor-owned utilities and the American Public Power Association, the National Rural Electric Cooperative Association, Pennsylvania Public Utilities Commission, 26 municipally-owned utility systems, and the Maryland Governor's Council of Economic Advisers. The principal issue involved was the inclusion of nuclear fuel costs in addition to fossil fuel costs. Another principal issue was the combination of fossil and nuclear fuel costs in the base and current cost of fuel rather than establishing a separate base cost for each type of fuel.

- C. Docket E-9393, Motion by the Electricities of North Carolina and the Cities of Anaheim, Riverside, Banning, Coulton and Azusa, California, to amend Section 35.14 of the Commission's Regulations. The amendment would limit upward revisions in fuel adjustments to 75% of fuel cost increases while providing for downward revisions in the full amount of fuel cost decreases. (Apparently this docket has not been finally determined and accordingly there is no FPC order listing the other public agencies who might have appeared in support of the Cities' motion.)
- D. Docket RM75-29, Fuel Adjustment Provisions in FPC Rate Schedules. This Rulemaking noticed June 17, 1975 would establish additional means of policing fuel clauses, namely, all amounts collected under a fuel clause would be subject to refund, semi-annual reports on the derivation of the fuel adjustment would be filed, all contracts relating to fuel procurement would be filed, and the Commission could command additional data and information. This matter has not been resolved and accordingly no order of the Commission has been issued listing parties filing comments. However, we do know that the Council on Wage and Price Stability in the Executive Office of the President filed comments.

- E. Dockets R-424 and R-446 - Portions thereof covered by Order No. 530 relating to comprehensive interperiod allocation of income taxes. These Rulemakings were commenced in 1971 and 1972. In addition to investor-owned utilities, comments on Docket R-424 were received from three accounting firms, an ad hoc committee of the American Accounting Association, a subcommittee of Staff Experts on Accounting of the NARUC, the Interstate Commerce Commission, and three State public service commissions. In response to Docket R-446, comments were received from various investor-owned utilities, one State Commission and one accounting firm. Following the issuance of Order 530, June 18, 1975, a group calling themselves "Public Systems" sought rehearing. This group consisted of some six cooperatives around the country, the City of Anaheim, California, Electricities of North Carolina representing 72 municipalities in that State and seven municipalities in Virginia, Harrison Rural Electric Association, the Indiana Municipal Electric Association representing 25 municipalities in Indiana, the NEPCO Customer Rate Committee representing 24 municipalities in Massachusetts, the Manchester Electric Company, the New Hampshire Electric Co-op, and the Littleton Municipal in New Hampshire, the Northern California Power Agency representing 11 cities in California and an electric co-op, the North Carolina and Oglethorpe Electric Membership Corporations, and the City of Riverside, California. In support of their application for rehearing they used Dr. Leslie Livingstone of Georgia Tech, Atlanta, Georgia. On March 18, 1976 the FPC opened the matter up for further consideration and called for responses within twenty days. This was done on motion of a group of investor-owned utilities and it is not known what other parties will file responses.
- F. Docket RM75-13, Amendment of Uniform Systems of Accounts to Provide for Inclusion of Construction Work in Progress in Rate Base. This was noticed by the Commission November 14, 1974 and shortly thereafter the American Public Power Association, the Georgia Municipal Association, the North Carolina Electric Membership Corporation, and the Edison Electric Institute sought an extension of time for comments. On January 23, 1976 the Commission scheduled an oral argument on the matter in New York City on March 8, 1976. In this notice the Commission stated it had received comments both pro and con from 160 parties. On February 13, 1976 the Commission amended the notice of oral argument upon motion of the American Public Power Association filed by Northcutt Ely. On February 26, 1976, the FPC issued an

order denying motions for regional hearings, extensions of time and other procedural matters made on behalf of: the Municipal Electric Utilities of Wisconsin, various cities involved as intervenors in Dockets ER76-150, ER76-303 and ER76-305, and the Municipal Wholesale Power Group who had intervened in Docket 76-331; and by Arkansas Community Organizations for Reform Now (ACORN), Arkansas Consumer Research, Carolina Action, Citizens Association for Sound Energy, Citizens Energy Coalition, Citizens for Better Environment, Environmental Action Foundation, Massachusetts Fair Share, Massachusetts Public Interest Research Group, Movement for Economic Justice, Mountain Plains Congress of Senior Citizens, Oregon Student Public Interest Research Group, North Carolina Public Research Group, TEA Party, Toward Utility Rate Normalization, and Utility Consumers of Missouri. A similar letter request was received from the Maine Public Interest Research Group, the River Electric Association of Minnesota, and the PUC of the City of Shakopee, Minnesota. The March 15, 1976 issue of "Electrical Week" indicates the following representatives of public interest groups and governmental or cooperative agencies spoke at the March 8, 1976 oral argument before the full Commission: Queens, N.Y., Council for Senior Citizens; Dr. John Livingstone of Georgia Tech on behalf of the American Public Power Association; James Horwood of Spiegel & McDiarmid for municipals in 16 States; Peter Schiff, General Counsel of the New York PSC; and Larry Wallace, Chairman of the Indiana PSC.

APPENDIX F

ROOSEVELT VETO OF PEOPLE'S COUNSEL BILL

PUBLIC PAPERS OF GOVERNOR FRANKLIN D. ROOSEVELT
(State of New York, 1930) p. 220-21

To Amend the Public Service Commission Law, In Relation to Creating
the Office of People's Counsel

STATE OF NEW YORK - EXECUTIVE CHAMBER

Albany, April 22, 1930

Memorandum filed with Senate bill, Int. No. 1429, Pr. No. 1659,
entitled:

AN ACT to amend the public service commission law, in relation
to creating the office of people's counsel.

NOT APPROVED

This bill provides that the Attorney-General shall appoint in his department an attorney, to be known as 'People's Counsel,' to be charged with the special duty of representing the public before the Public Service Commission at public utility hearings.

The entire purpose of this bill is based upon a fundamentally false conception of the proper function of a public service commission. Public service commissions were originally adopted, in this and other states, for the purpose of carrying out certain duties in connection with utility companies theretofore performed by the various legislatures. These duties, in essence, are to see that public utility companies furnish to the consuming public adequate service at fair and reasonable rates, and to protect legitimate investors in utility securities. The Public Service Commission has taken these legislative functions over. It is not, and never has been, merely

a court. It is rather intended to represent the public interest in connection with various industries of a semi-public character subjected to its jurisdiction. The very nature of the business under their control renders inoperative the ordinary controlling force of competition; therefore, the State has provided this machinery to protect the public from the evils which would inevitably follow from the granting of monopolistic privileges.

Many people think that the Public Service Commission of New York State in recent years has not measured up aggressively to these standards; that this is proved by statistics showing a decrease in the number of instances in which the Commission has initiated rate cases since 1923. In a great many cases it is alleged that consumer complaints have not aggressively been followed up. This decline in effectiveness is shown very clearly by the minority report of the commission on revision of the Public Service Commissions Laws at pages 68 to 74. I believe, however, that recent changes in personnel, and additional appropriations for the Commission may be expected to correct this tendency.

The testimony before the revision commission shows that whatever sentiment was developed in favor of a People's Counsel was due entirely to the recent letting down of commission activities in connection with these functions. The duty and function of the Public Service Commission can never remain in doubt. It can never be transferred to an individual as a counsel.

At the hearings before the revision commission, Commissioner Henry C. Attwill of the Massachusetts Department of Public Service and

Commissioner Howell Ellis of the Indiana Commission stressed the importance of having the commission itself exercise its initiative on behalf of the public service. The proper doctrine was expressed by Mr. Harold Evans, former member of the Pennsylvania Commission, who stated that regulation by the commission was intended to take the place of competition; that any properly functioning public service commission must have the attitude that it is taking the place of the force of competition; that important cases should be handled on its own motion; and that the commission itself should carry the burden of representing the public's interests with such aid as the complainants can offer. Mr. Thomas J. Tingley, who was the so-called People's Counsel in Maryland, points out the danger of establishing a People's Counsel who would be independent of the Public Service Commission. He states that this would run counter to the undoubted function of the Public Service Commission of instituting rate cases itself. The People's Counsel in Maryland is an entirely different kind of officer from the one contemplated by this bill; he is really a part of the Commission itself and corresponds with the general counsel of our Commission.

Indeed, the entire testimony before the revision commission tends to emphasize the unmistakable fact that the function which this bill aims to transfer to the Attorney-General's office is really the function of the Commission itself. The bill would divide this responsibility for protecting the public. It would in effect reduce the Public Service Commission to the role of a mere utility court in which the people would have to fight their unequal battle against the huge resources of public utility corporations.

The functions of the "People's Counsel" provided for in this bill should be exercised by the Commission through its own counsel, assistant counsel, or any other employees whom it wishes to designate therefor.

I hope that the present Public Service Commission will more and more undertake on its own initiative to institute rate and service proceedings. It should not rely on the complainant's, but on its own efforts, to establish proper protection for the public. The idea of a "People's Counsel" as intended by this bill is antagonistic to such an attitude on the part of the Commission.

Without the help of engineers and accountants a lawyer can accomplish little because the questions involved are almost always non-legal. The bill provides that the proposed "People's Counsel" shall have the assistance and cooperation of the staff of the Public Service Commission. This is destructive of efficiency and responsibility for no staff can work simultaneously for two masters..

The bill is disapproved.

(Signed) FRANKLIN D. ROOSEVELT

APR - 5 1976

STATEMENT OF

ROBERT W. PERDUE

DEPUTY GENERAL COUNSEL

FEDERAL POWER COMMISSION

HEARINGS BEFORE THE

SUBCOMMITTEE ON ENERGY AND POWER

COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE

UNITED STATES HOUSE OF REPRESENTATIVES

Mr. Chairman and Members of the Committee, I appreciate this opportunity to participate in this panel and to testify on H.R. 12461, the "Electric Rate Reform and Regulatory Improvement Act", which I will hereafter refer to as "the Act". My comments will be directed specifically to proposed Section 308 of Title III of the Act, designated "Representation of Consumer Interests."

TITLE III
REPRESENTATION OF CONSUMER INTERESTS

Section 308

Section 308 provides for the establishment of an Office of Public Counsel within the Federal Power Commission which would represent the interests of consumers in any matter under consideration by the Commission. It is assumed that by "any matter" the bill is directed to any matter arising only under the Power Act. However, my comments would equally apply if the Office of Public Counsel were also to function under the Natural Gas Act.

This new independent office would participate in all agency proceedings, formal or informal, with the right to petition the Commission for initiation of proceedings to protect consumer interests, to petition for rehearing and reconsideration, and to seek judicial review of any Commission action. The Office would be administered by a Director, appointed by the President by and with the consent of the Senate to serve a four-year term of office. The Director would be empowered to staff the Office, fix compensation and assign the duties of employees under his control.

In enacting the Federal Power Act 1/ and the Natural Gas Act 2/, Congress intended to provide Federal regulation to protect the public interest in matters relating to the transmission and sale of electricity and the transportation and sale of natural gas which are beyond the reach of State regulatory control. 3/ In accordance with this Congressional mandate, the Supreme Court has repeatedly stated that the Commission is under a legal obligation to protect the ultimate consumers. 4/ This was the case in Pennsylvania Water & Power Co. v. Federal Power Comm., 343 U.S. 414, at 418 (1952) where the Court said:

"A major purpose of the whole (Federal Power) Act is to protect power consumers against excessive prices...."

1/ 49 Stat. 863; 16 U.S.C. § 791a.

2/ 52 Stat. 833 (1938); 15 U.S.C. § 717w.

3/ See e. g., H.R. Rept. No. 61, 61st Cong., 1st Sess. 5 (1919) to accompany H.R. 3184, which became the Federal Water Power Act; S. Rept. No. 621, 74th Cong., 1st Sess. 3, 17-18, 22 (1935) to accompany S. 2796, which became the Federal Power Act of 1935; H.R. Rept. No. 709, 75th Cong., 1st Sess. 1-3 (1937) to accompany H.R. 6586 which became the Natural Gas Act; Federal Power Commission, et al., v. Interstate Natural Gas Co., et al. 336 U.S. 577, at 581 and separate opinion of Mr. Justice Black at 597 (1949).

4/ Federal Power Comm. v. Hope Natural Gas Co., 320 U.S. 591, at 610 (1944); Federal Power Comm. v. Tennessee Gas Co., 371 U.S. 145, at 154 (1962); and see, Louisville Gas & Electric Co. v. Federal Power Comm., 129 F.2d 126, at 133 (6th Cir.) cert. denied, 318 U.S. 761 (1942).

Similarly, in Federal Power Comm. v. Transcontinental Gas Corp., 365 U.S. 1, at 19 (1961) the Court said:

"When Congress enacted the Natural Gas Act, it was motivated by a desire to 'protect consumers against exploitation at the hands of natural gas companies.' Sunray Mid-Continent Oil Co. v. Federal Power Comm., 364 U.S. 137, 147."

I believe that the Federal Power Act and the Natural Gas Act more than adequately insure the public that its interest is of primary concern in any matter before the Commission. The Supreme Court has recognized the sufficiency of existing legislation to protect the public interest in Federal Power Comm. v. Louisiana Power & Light Co., 406 U.S. 621, 631, 640-641 (1972) where it observed:

"The Natural Gas Act of 1938 granted FPC broad powers 'to protect consumers against exploitation at the hands of natural gas companies'. F.P.C. v. Hope Natural Gas Co., 320 U.S. 591, 610, 88 L. Ed. 333, 349, 64 S. Ct. 281 (1944). Congress created 'a comprehensive and effective regulatory scheme,' Panhandle Eastern Pipe Line Co. v. Public Service Comm., 332 U.S. at 520, 92 L. Ed. at 139, to 'afford consumers a complete, permanent and effective bond of protection...' Atlantic Refining Co. v. Public Service Comm., 360 U.S. 378, 388, 3 L. Ed. 2d 1312, 1319, 79 S. Ct. 1246 (1959)."

The duplication involved in establishing a separate office for consumer protection, therefore, would serve no purpose.

The task of protecting the interests of consumers of electric utility services is, of necessity, highly specialized and demands the efforts of knowledgeable experts who can be depended upon to explore all facets of electric utility problems. Over the years, the staff of the Federal Power Commission has accepted its legal obligation to provide forthright presentation and advocacy of the consumer viewpoint before the Commission and the Courts. In performing its quasi-judicial function of protecting the public interest, the Commission has also relied and drawn upon the experience of a staff thoroughly familiar with the electric and gas industries. In addition to staff representation, the consumer is also represented by municipal distributors, state commissions 5/, environmental organizations and others who participate regularly as parties or intervenors in Commission proceedings.

5/ In Southern Louisiana Area Rate Cases (Austral Oil Co. v. Federal Power Commission), 428 F.2d 407, at 414, n. 3, (5th Cir. 1970).

The Commission's regulations at present are designed to provide widespread notice to the public of matters concerning licenses and amendments thereto, and applications for permits pending before the Commission. Commission rules provide that notices of proposed rulemakings are to be published in the Federal Register enabling interested persons to participate in Commission proceedings. Furthermore, Sections 4(e) and (f) of the Federal Power Act require that notice of applications by electric utilities for licenses and preliminary permits and amendments be published in local newspapers in the county where the project is located. Commission regulations 6/ also require each utility filing a change in electric rates to mail each State Commission affected and to each wholesale purchaser affected a copy of the proposed rate schedule. In these ways, the public ultimately should receive notice of matters pending before the Commission and may file protests, complaints, or petitions to intervene as a party as detailed in the Commission's Rules of Practice and Procedure. 7/

6/ 18 C.F.R. § 35.2(d).

7/ 18 C.F.R. §§ 1.6, 1.8 and 1.10

Before the proposed legislation is enacted, it should be noted that the Federal Power Act and the Natural Gas Act require representation of public interest as opposed to representation of the interests of users of service. In many instances, these interests are not identical. A perfect example of that situation arose as set forth by the United States Court of Appeals for the District of Columbia in its decision of March 26, 1976, in State of North Carolina v. F.P.C., (No. 74-1941) wherein the matters only tangentially concerned the "user of service" as defined in Sec. 308(a) of the proposed legislation.

Additionally, the Commission has an obligation to balance the need for reasonable rates for consumers against the need of the utility to maintain its financial integrity. ^{8/} The existence of an independent office within the Commission representing only user interests could result in internal controversies.

^{8/} The purposes of the Act encompass not only reasonably low rates but maintenance of adequate service for the consumer, and the latter objective is the reason for the Hope requirement that rates must be 'sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital.' ...Indeed, the Hope case interprets the policy of the Act as involving both consumer interests and the autonomous interests of the industry. The Commission must 'balance...the investor and consumer interests.' 320 U.S. at 603, 64 S. Ct. at 288." Southern Louisiana Area Rate Cases (Austral Oil Co. v. Federal Power Commission), supra, at p. 435.

The creation of such an Office would also undoubtedly lead to a duplication of staff effort in resolving matters before the Commission, while in all likelihood increasing the cost and time spent on adjudication. Such an Office would be required to consider the appeals of all consumer-oriented groups, no matter how frivolous or unwarranted they may be, and represent such interests in Commission proceedings. This may only result in an administrative morass.

While the concept of an independent Office for consumer advocacy in many government bureaus and agencies has merit and may be supported, in general, I am convinced that consumer interests are now adequately represented by the Commission staff and, therefore, conditions do not warrant the interjection of the proposed Office of Public Counsel. Since the objectives of Section 308 of H.R. 12461 appear to be achieved by the present regulatory scheme enacted by the Congress and as implemented by the Commission, I do not believe there is the need for the establishment of the proposed Office of Public Counsel.

APRIL 7, 1976

STATEMENTS OF: WILLIAM G. ROSENBERG, ROBERT I. HANFLING,
DR. ALFRED E. KAHN, PANEL ON UTILITY FINANCING, AND
PANEL ON CONSTRUCTION WORK IN PROGRESS

(929)

The first part of the paper is devoted to a general
discussion of the problem. It is shown that the
problem is equivalent to a problem in the theory of
differential equations. The second part of the paper
is devoted to a detailed study of the problem. It is
shown that the problem is equivalent to a problem in
the theory of differential equations. The third part of
the paper is devoted to a detailed study of the
problem. It is shown that the problem is equivalent
to a problem in the theory of differential equations.

The fourth part of the paper is devoted to a
detailed study of the problem. It is shown that the
problem is equivalent to a problem in the theory of
differential equations. The fifth part of the paper
is devoted to a detailed study of the problem. It is
shown that the problem is equivalent to a problem in
the theory of differential equations. The sixth part of
the paper is devoted to a detailed study of the
problem. It is shown that the problem is equivalent
to a problem in the theory of differential equations.
The seventh part of the paper is devoted to a
detailed study of the problem. It is shown that the
problem is equivalent to a problem in the theory of
differential equations. The eighth part of the paper
is devoted to a detailed study of the problem. It is
shown that the problem is equivalent to a problem in
the theory of differential equations. The ninth part of
the paper is devoted to a detailed study of the
problem. It is shown that the problem is equivalent
to a problem in the theory of differential equations.
The tenth part of the paper is devoted to a
detailed study of the problem. It is shown that the
problem is equivalent to a problem in the theory of
differential equations.

TESTIMONY BY WILLIAM G. ROSENBERG
ASSISTANT ADMINISTRATOR
ENERGY RESOURCE DEVELOPMENT
FEDERAL ENERGY ADMINISTRATION
before the
Subcommittee on Energy and Power
Committee on Interstate and Foreign Commerce
on H.R. 12461
The "Electric Utility Rate Reform and
Regulatory Improvement Act"
April 7
Utility Financing

The electric utility industry is one of the most capital intensive industries in the country. Over the next ten years, FEA's baseline projection shows that as much as \$275 billion (in 1975 dollars) may be required to be invested in new facilities. This investment would be required to meet the 5.4 percent growth rate projected in FEA's National Energy Outlook, and to fully meet the Nation's energy and environmental objectives.

Although load management, through reduction of peak load growth, promises to reduce capacity and financing requirements substantially, even with accelerated load management practices, the industry's capital requirements will still be far greater than in previous time periods. For example, during the ten years from 1966 to 1975, electric utility construction expenditures totaled a little under \$110 billion, or an average of \$11 billion per year. In the year 1975 alone, however, construction expenditures were estimated to reach a level of \$15 billion. Based on FEA's projections, even assuming load management, the next ten years will see average annual capital expenditures of more than

\$27 billion, which would account for nearly half of all projected energy investments. The most optimistic potential reduction in capacity due to load management is \$60 billion by 1985, or about \$6 billion per year.

During the same ten-year period from 1966 to 1975 the percent of investment financed externally has increased from roughly 60 percent to more than 80 percent. Thus, in addition to requiring greater total amounts of capital, the amount of funds required to be received from external sources has also increased. It is ironic, therefore, that at this time in the industry's history, when greater financial dependence is being placed on external equity and debt financing, the industry is simultaneously encountering several difficulties in obtaining these funds. Over the past few years, these difficulties have been evidenced by the following events:

- A. Deferrals, delays and cancellations of more than \$20 billion of new plant construction. The majority of these deferrals were baseload, domestically fueled coal and nuclear facilities.
- B. In 1966, the market value of electric utility common stocks was a little more than two times the book value; in 1974, this had declined to .67 times book value. Market value has only slowly returned, so that today it is nearly equal book value.

C. Earnings coverage ratios, which at one time were as high as 5.3 times interest, have fallen to 2.1 times interest. This has resulted in a significant downgrading of bond ratings and the commensurate increase in interest rates.

Electricity is a major source of energy for the Nation today and will increase in importance. It is the most practical way that we can fully utilize our abundant domestic coal and nuclear energy resources. In addition, most potential future sources of energy for the country will, in one way or another, be related to our electricity systems; solar, geothermal, fusion, magneto-hydrodynamics.

To a great extent, implementation of these energy sources will be highly capital intensive relative to oil and gas. As examples, in 1985, a new coal plant without a scrubber will cost \$380 per installed kilowatt; a new coal plant with a scrubber, \$480 per kilowatt; a new nuclear plant, \$550 per kilowatt. An oil and gas generating facility, however, would cost only \$310 per kilowatt. On the other hand, while the fuel, operating, and maintenance costs for a nuclear plant could be as low as 5 mils per kilowatt hour and those of coal plants run between 10 and 12 mils per kilowatt hour, the

comparable operating and fuel costs for an oil-fired plant would be as high as 32 mills per kilowatt hour. Thus, over time, the capital intensity of new non-oil and gas facilities will be more than offset by their lower fuel costs. The overall costs are 18 mills for nuclear, 21-22 mills for coal, and 28.5 mills for oil power. In addition to providing consumer savings over the long term, our national energy objectives of relative independence from reliance on foreign energy sources dictate the increased utilization of coal and nuclear fuels to generate electricity. The FEA's National Energy Outlook calls for near doubling of coal production over the next ten years and for the increase of nuclear generation for electricity from approximately nine percent of the total to nearly 26 percent of the total.

FEA's computer simulation of energy developments indicates that by 1965 there should be very little oil or gas baseload generation because of the favorable economics for alternative sources of baseload power. However, while this analysis indicates that consumers will be best served by a lower-cost shift to coal and nuclear baseload generation, it is not clear that utility financing will be available to permit these new investments to be made in a timely fashion. In addition to capital requirements to finance load growth and fuel switching, utilities will have additional capital needs.

One key area is the coal conversion program required by the CBECA and EPCA legislation. This program empowers FEA to require oil and gas-fired plants that have coal burning capability to convert back to using coal. It is clear to me, however, that even if such a program were not legislatively mandated, the consumer benefits would call for conversion. In the first 74 orders issued by FEA, total capital costs would be \$300 million, (mostly for preparations and coal handling equipment), for an annual cost of \$50 to \$60 million for a net consumer benefit of nearly a half a billion dollars. In this case, annual fuel savings exceed annual capital costs by 10 to 1.

Additional capital expenditures will also be required to meet the nation's objectives for air quality and safety standards. If pending Clean Air Act amendments pass, requiring utility use of best available control technology and imposing new standards of nonsignificant deterioration of air quality, EPA has estimated that additional capital expenditures of more than \$10 billion will be required to meet these more stringent air pollution control requirements.

To a great extent, implementation of these programs may be deferred or delayed due to a disincentive inherent in the regulatory process against major capital investment which is discussed below.

An analysis of the economics of electric utilities today and of the capital markets and regulatory systems in many jurisdictions in which they seek to raise and generate their funds, leads to the conclusion that utilities are no longer in an environment which encourages capital investment. Yet the changes that have occurred in the industry have not yet penetrated common belief. Because it still holds an assumption that ceased to be true a decade ago--that increasing sales volume means increasing profit for electric utilities--the public has adopted two unfortunate opinions. These are:

1. That the industry has an incentive to build unnecessary plant capacity in order to increase profits, whether or not it is detrimental to public consumers, and
2. That State regulators--and utility management--cannot be relied on to forecast and plan objectively and to formulate energy and economic policies fairly.

It is important background in evaluating H.R. 12461 to understand:

° First, that, in fact, utilities no longer derive marginal profit from economies of scale,

° Second, that this problem is exacerbated by the operation of the capital market, and

° Third, that regulatory policy today accentuates the disincentives to new construction, rather than offsetting

them, as is necessary for utilities to meet the capital expenditure requirements whose sources are outlined above.

First, as the attached chart from the National Energy Outlook* indicates, the capital cost of new coal and nuclear plants many times exceed the historic capital costs of power plants. The unavoidable consequence of this fact is that at the margin, the cost of producing power is becoming increasingly expensive and the profitability is decreasing. Just as we have learned to sharpen our analysis of demand issues by focusing on the marginal cost to purchasers, so also must we sharpen our analysis of supply issues -- such as capital availability and regulatory requirements - by focusing on the marginal cost of supply.

To do so, strongly suggests that far from being anxious to add new plants as fast as they can, utilities may be inclined to delay construction of new plants until their necessity has been amply demonstrated. The climate of uncertainty created not merely by the potential vagaries of load growth forecasting, but also of the capital markets and of regulators, may be expected to exacerbate this trend.

The sale of common and preferred stock, and various classes of debt, is the source of a major portion of the cash flow of electric utilities. Today, with the improvement of the

*Fig. V-1. Comparison of Plant Cost Estimates.

stock market, it is somewhat easier to raise capital.

Nevertheless, utilities issues are materially less attractive today than they were ten years ago. Investors are concerned with the impact of inflation on construction programs, the deterioration of coverage ratios, and the uncertainties as to the favorability of the regulatory environment.

Investor concern with utility condition is reflected in the higher interest rates utilities are paying, and the decline in their stock prices relative to book value. Utilities have lagged materially behind the market in 1976. Since the close of 1975, S&P 425 Industrials are up 12.3 percent compared to no change for the S&P utilities. Under these circumstances, it is not unreasonable to conclude that the management of utilities will not be attracted to seek external funds. Instead, the reaction of the capital markets to the state of electric utilities today tends to influence utilities against making major capital investments.

This disinclination to invest scarce, expensive capital is increased by the regulatory policies implemented by many state public utility commissions. Under the fuel adjustment clause and regulatory provisions now generally in effect, most utilities can recover their fuel costs on a relatively current basis; by contrast, capital expended to build a new plant may only commence to be recovered when that plant has entered into the rate base, i.e., after a period of time as long as ten to twelve years. For utilities already strapped

for cash, and uncertain as to what future capital requirements will be, this represents a disincentive to capital investment. This means that there may be a disincentive to achieving fuel economy because of the reduction in perceived urgency in replacing oil-fired base load plants with coal-fired or nuclear plants. It is our view that the balance should be redressed by supporting regulatory reforms-- such as the inclusion of CWIP in utility rate bases -- which will enable utilities to recover capital in a timely manner and thus enable them to consider the construction of coal or nuclear versus oil plants in a more rational economic perspective.

We must candidly recognize that even an improvement in the relatively objective elements in utilities investment climate--capital markets and regulation -- will not deal with the intangible qualitative element which affects the willingness of both regulators and regulated alike to proceed with what may otherwise be perceived as necessary capital investment: the willingness of the public to accept the necessary costs of expansion in environmental as well as economic terms. As you know, and as we will discuss in greater detail tomorrow, states are just beginning to move in the licensing and siting process from a case-by-case adversarial approach to a process associated with energy development. Their processes are new and not always

successful. While FEA's power plant acceleration task force has identified the source of much delay as "finance," it is necessary to read into that term the concept of "delay." Because in the utility setting, where individual projects are financed out of the overall system financing of the companies, time is money. It is funds tied up in siting, in construction, and in legal expenses. This is highlighted in the National Energy Outlook breakdown of cost escalation in new power plants.

Time lag also means increasing uncertainty - uncertainty as to the total costs and completion date of projects. It represents another reason for a utility to pause before undertaking a long-term and expensive construction program. In most cases, the State commissions are not in a position to independently know whether construction curtailment is favorable to the public interest, and so, given the result that curtailments tend to reduce the pressure for immediate rate increases, they acquiesce. This uncertainty is a product of the incapability of the majority of State utility commissions to engage in sophisticated load growth projections and to translate them into long-term construction programs. Many are ill-equipped to encompass readily in their proceedings the myriad of public interest considerations of which private parties are now making them aware.

Utilities are thus left uncertain of public reaction to siting decisions and of State commission response. Given the economic facts, this uncertainty is an impetus to deferral of construction.

FEA is now working through its State Utility Advisory Committee to develop prototype planning methodologies and programs to allow commissioners to fully comprehend the long-term energy, economic and environmental consequences of their rate decisions and of utility investment decisions. We are also seeking to begin to encourage implementation of more sophisticated state energy planning procedures.

In sum, I believe the facts tell us that it is more likely that the utilities will fail to construct adequate supplies of coal and nuclear power facilities than it is likely that they will overbuild. But I do not prejudge the issue. My purpose has been to highlight for you that the problem is present and to urge you to equip State commissions -- the logical and legally available forums -- to confront the implications of these decisions. And finally, my purpose has been to suggest to you that in equipping them, you should not assume that what they have to do is to limit utilities from bounding across the countryside; rather, it will be, in a careful and measured way, to assure that the industry meets both energy needs and the needs of public policy. This is necessary not only for the economic reasons which I have just discussed, but in order to meet the long-term needs of the consumer which I will now address.

The consumer's best interests on both the demand and supply side is for the utilities to have the incentive to make the most economic decisions considering all the factors. Just as we have argued that rates should be set on the basis of marginal cost principles which send the most complete economic signals to customers, we believe that the consumer will most benefit when supply decisions are made on the basis of marginal cost principles which encourage the development of the most efficient and least costly facilities. Cost in these cases obviously includes capital and other fixed costs as well as operating fuel costs. It is the overall total energy production cost that should be delivered to customers in the most economic way, and it is for the overall cost that utilities must be paid whether via the rate base or automatic adjustment clauses. Any noneconomic disincentive against capital which does not lead to an optimization of the lowest aggregate cost will of course hurt the consumer's interest and lead to a misallocation of resources. In this case, as we have stressed, it leads to a greater reliance on oil generation and higher oil imports instead of coal and nuclear generation from American resources.

There are essentially five reasons why the factors which result in unwillingness of utilities to make capital expenditures is against the best interests of the consumer.

1. Fuel choice - The ability of consumers to use electricity generated from coal and nuclear fuel, which has a fuel cost component considerably lower than oil, is directly tied to the willingness and ability of a utility to make higher capital expenditures. Coal generation is less expensive than oil generation but coal plants require a greater capital commitment. FEA's experience in the ESECA program, where we are given the regulatory responsibility to direct utility companies to convert from oil back to coal where they once burned coal and have the capacity to do so, dramatically points out the economic penalties paid by the consumer where there is a capital bias. For the first 74 orders issued by FEA the cost of converting the oil plants back to coal would involve investments of \$300 million which would have annual carrying costs of between 50 and 60 million dollars. Our estimate of fuel savings, however, resulting from burning coal instead of oil are 570 million dollars per year. Thus the annual cost of conversion will be 1/10 of the annual fuel savings for these plants. Nevertheless, except for a minority of the 74, it does not appear that the utility companies will voluntarily make these conversions.

2. Air pollution*- In order to meet air pollution standards, utilities are given the choice of switching to low sulfur fuel or

*EPA has indicated its strong support of the Administration's position to include capital costs of pollution control equipment, as incurred, as "construction work in progress" in the rate base. (See attached letter.)

installing expensive scrubbers and other new technologies. So long as the bias to capital expenditures exists, air pollution requirements will be met wherever possible by burning higher cost oil rather than making long-term investments in scrubbers and other new technologies. In the long run the ability to fully utilize our coal facilities is very much dependent on improving the use of technologies to use coal in a clean way, and a disincentive to making those investments necessarily delays the Nation's ability to come to grips with the energy impact problem. The EPA has taken a strong position that rate making policies should be modified to encourage the full compensation for air pollution control investments as a way to expedite the ability of this Nation to meet its environmental objectives. We are in agreement with this position.

3. Delays - There are many plants that have been delayed because of the financial reasons and the difficulties companies have in making accelerated capital investments. Delays during the construction period of a billion dollar plant, for example, have a major cost to consumers. Even a one-year delay could result in two to three hundred million dollars of additional costs because of higher construction costs, additional interest during the construction period, and the cost of replacement power during the period the new plant is not available. Further, construction program delays in an inflationary economy inevitably mean higher prices in the long term. Moreover, in the event that the construction delays lead to shortages in the future, in

the early stages, the only way to play "catch up" will be to build oil-fired generation, which, as we have mentioned, will have a shorter lead time but which will increase our imported oil requirements and increase prices to consumers.

4. Cost of capital - The regulatory procedures which do not fully allow for a recovery of cost of capital will themselves, in a spiraling effect, raise the cost of capital by reducing the credit worthiness of the company. In this regard, we have seen the decline in bond ratings and stock prices in proportion to book value. Higher capital costs inevitably mean higher prices to the consumer.

5. Productivity investments - Investments to retrofit facilities to improve the utilization of fuel, like other capital investments, are retarded by disincentives to make capital investments and tend to lead to higher fuel costs and higher utility rates.

Having reviewed the financial situation and regulatory problems of utilities and how these constitute what I have termed "capital disincentives" I would like to address the issue of an appropriate Federal role in electric utility ratemaking. The first principle in identifying a Federal role must be to recognize the strong historic tradition of state regulation. This tradition is founded on a sense that the local governments should control their economic destinies

and with the complexity of the problem which we are facing, it is even more clear that each state must have the capacity to make judgments and find solutions to its own needs. Therefore the principle of the Federal role must be to intervene only where the states have not shown a disposition to consider the long-term national interests.

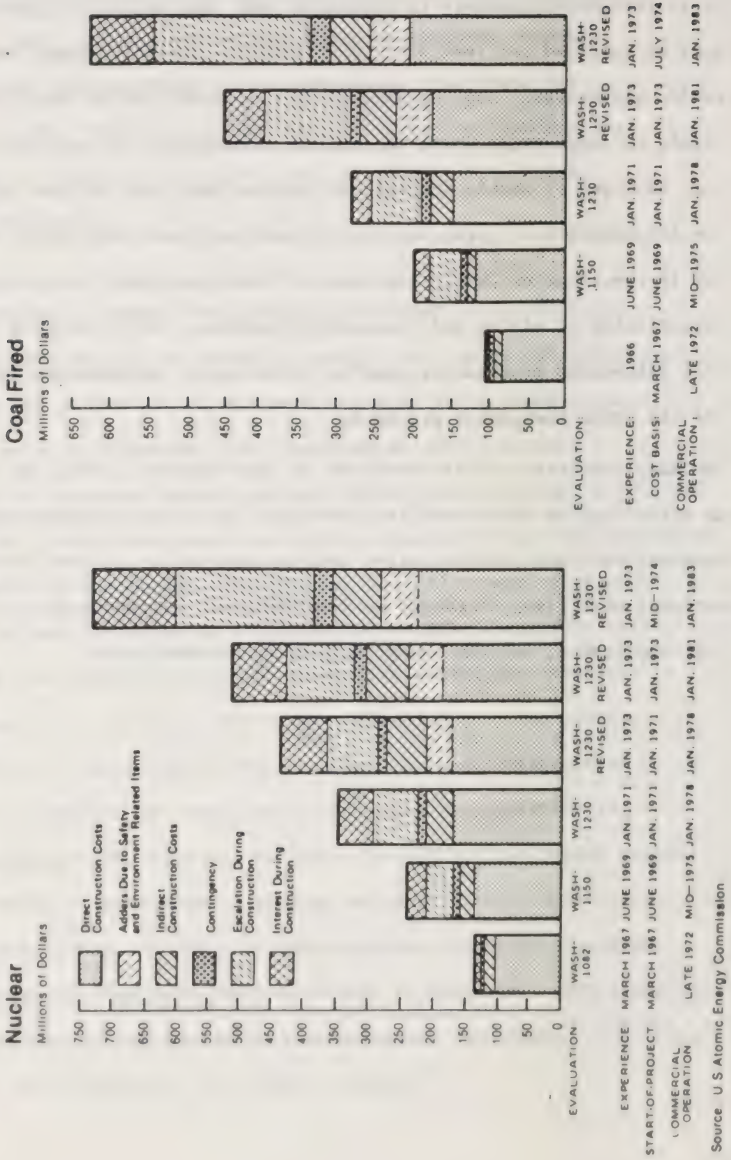
It is therefore incumbent upon Federal government to identify the problems facing the state commissions; to provide analytical assistance in solving the problems. It is imperative that state commissions have the capacity to oversee the effectiveness of the utility management of companies subject to its jurisdiction, to make independent estimates of future load growth and public demand for service, to analyze short- and long-term options for construction and demand management programs to meet those public requirements, to make changes in rate structures that reduce unnecessary demand, to insure that the fuel mixes selected by utilities are in the public interest and provide for the lowest cost option to the consumer. By undertaking these responsibilities utility commissions will take the initiative in protecting the public interest and begin to exercise reasonable control over tradeoffs of environmental policy, adequacy of supply and long-term consumer costs. To date, in time-consuming rate case procedures (where particular decisions require records in excess of 5,000 pages of transcript), the role of the utility commissioner is a passive response to events and proposals of the utility industry.

It is therefore necessary to recognize that the regulatory system must be improved and restructured to ensure a careful balance between public objectives. Any legislation that Congress enacts should address itself to those areas where the utility commissions on their own have been hesitant or unable to begin to achieve important national objectives. The Administration's proposals which have been described by Mr. Zarb are in the areas of CWIP, timeliness of rate decisions, tax policy, streamlining of siting and licensing procedures, rate structure reform, fuel adjustment procedures, together with Energy Independence Authority and the Labor Management proposals.

The many concerns of this Committee are also shared by FEA, and hopefully, an effort can be undertaken that combines all of our concerns into a congressional and administrative program designed to achieve the multiple national objectives of energy self-sufficiency, environmental quality, full employment, and the lowest long-term consumer costs.

Figure V-1

Comparison of Plant Cost Estimates (Total Investment for 1000 MWe Plants)





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

APR 7 1976

THE ADMINISTRATOR

Dear Mr. Chairman:

This is in response to your request of March 22, 1976, for the comments of the Environmental Protection Agency on H.R. 12461, a bill, "To reform electric utility rate regulation, to strengthen State electric utility regulatory agencies, and for other purposes."

The bill acts in four areas. First, title II deals with utility rate reform by setting national minimum standards for electric utility rate regulation and establishing an Office of Electric Utility Rulemaking Assistance. Second, title III concerns the economic regulation of bulk power supply in a variety of ways. Third, title IV provides financial assistance to State regulatory authorities to improve staffing, consumer representation, and rate structure innovation. And fourth, title V involves the coordination of planning and siting of bulk power facilities.

We defer to the Federal Energy Administration, the Federal Power Commission, the Department of the Treasury and other affected agencies on the merits of H.R. 12461. However, there are several comments we wish to make on this proposed legislation.

First, section 203(c)(1)(B) prohibits any State regulatory authority from excluding the capital costs of pollution control equipment from the determination of a utility's rate base. We firmly support this approach since it will permit utilities to budget for pollution control equipment and this will provide an incentive for the electric power industry to install the required environmental control technology.

In connection with the issue addressed in section 203(c)(1)(B), we strongly support the Administration's position to include the capital costs of pollution control equipment, as incurred, as "construction work in progress" in the rate base. In our experience, the prevalent disparity in treatment that now usually exists between such costs and the fuel adjustment clauses applicable to fuel costs is a substantial factor in motivating utilities to seek lower sulfur fuels, often foreign residual oil, in preference to capital-intensive emission control systems that permit expanded use of our abundant domestic coal resources.

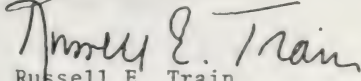
Second, regarding section 309, it is not expected that environmental control will adversely affect power plant reliability. The state-of-the-art of control technology as exemplified by flue gas desulfurization has advanced to the point where a well-designed system should not cause any significant impairment of overall plant reliability. With the careful selection of the type and capacity of the flue gas desulfurization technology, it is possible that over time the scrubber reliability can approach one hundred percent.

Third, with respect to sections 501 and 502 we support the concept of rational energy resource planning which is sensitive to environmental values. The facility planning function should be undertaken with sufficient lead time so as to permit thorough analysis of the environmental impact of any proposed power plant project. While we support an effort to streamline the energy facility planning and siting process, we must not sacrifice important environmental and aesthetic values while pursuing that goal. It must also be stressed, and H.R. 12461 so states, that power plant development can only occur in conformity with Federal air and water pollution control laws. Since energy development is often a disruptive activity, it should be undertaken only after there has been an accurate projection of energy needs. Finally, we believe that the objectives of energy development and environmental protection are achievable and that they are not mutually exclusive.

We thank you for the opportunity to review H.R. 12461.

We have been advised by the Office of Management and Budget that there is no objection to the presentation of this report from the standpoint of the Administration's program.

Sincerely yours,


Russell E. Train

Honorable Harley O. Staggers
Chairman
Committee on Interstate
and Foreign Commerce
House of Representatives
Washington, D. C. 20515

The following table shows the results of the experiments conducted on the effect of the temperature of the water on the rate of the reaction.

Temperature of water (°C)	Rate of reaction (g/l/h)
10	0.15
20	0.25
30	0.40
40	0.60
50	0.85

It is seen from the above table that the rate of the reaction increases with the increase in the temperature of the water. This is due to the fact that the molecules of the reactants have more energy at higher temperatures and hence they are more likely to collide and react.

The following table shows the results of the experiments conducted on the effect of the concentration of the reactants on the rate of the reaction.

Concentration of reactants (g/l)	Rate of reaction (g/l/h)
0.1	0.15
0.2	0.25
0.3	0.40
0.4	0.60
0.5	0.85

It is seen from the above table that the rate of the reaction increases with the increase in the concentration of the reactants. This is due to the fact that there are more molecules of the reactants available for collision at higher concentrations.

STATEMENT OF ROBERT I. HANFLING
DEPUTY ASSISTANT ADMINISTRATOR
ENERGY RESOURCE DEVELOPMENT
FEDERAL ENERGY ADMINISTRATION

before the
Subcommittee on Energy and Power
of the
House Committee on Interstate and Foreign Commerce
April 7, 1976

INTRODUCTION

Mr. Chairman and distinguished members of the Subcommittee, I appreciate the opportunity to appear before you today. H. R. 12461 contains two sections dealing with the rate making treatment of construction work in progress (CWIP) of electric utilities. Section 203(c) allows inclusion of CWIP by state regulatory agencies up to 66 2/3% of CWIP after certain prerequisites are met. Section 306 amends the Federal Power Act to prohibit the Federal Power Commission (FPC) from including any portion of CWIP in the rate base.

FEA's position on CWIP is not a new one. We have long favored inclusion of CWIP because of its favorable effect on the ability of utilities to meet their capital requirements. On April 14, 1975, FEA testified before the Senate Committee on Government Operations in support of the President's proposed Energy Independence Act of 1975, including Section 707, which prohibits regulatory agencies from making inclusion of CWIP unlawful. More recently, on February 24 of this year, FEA testified before the House Budget Committee in favor of the Labor-Management Committee's proposed Electric Power Facility

Construction Incentive Act of 1975, which encourages inclusion of CWIP. Finally, last month FEA participated in FPC rulemaking proceedings by submitting a written statement and presenting oral argument supporting inclusion of CWIP.

Capital Requirements of the Electric Utilities

The electric utility industry is the Nation's most capital intensive industry. Because of its high investment needs and low amortization rates, capital investment of almost \$4 is needed to produce \$1 of annual revenues. By contrast, the average manufacturing company needs only \$.75 to produce \$1 of annual sales. Even the most capital intensive industries need considerably less capital per dollar of sales: telephone companies need about \$2.75; aluminum companies need \$1.30, and petroleum companies need only about \$1.

The amount of new electric utility capital investment that will be required in the future depends in part on future demands for electricity. Our Nation will continue to require an increasing supply of electricity. Although the historical growth rate of electricity has been about 7% per year, there was little or no average demand growth in 1974 and only 2% in 1975, as consumers adapted to higher prices and economic slowdown. However, FEA estimates that, as the economy recovers, electric demand growth will increase to 5 to 6% per year through 1985.

Despite a growth rate lower than historical levels, the amount of capital needed to finance new facilities to meet

necessary future demand will not decline from the pre-embargo level. Capital investment per kilowatt of capacity has increased for several reasons, including general inflation, increased interest rates, increased technological complexity of facilities, pollution and safety controls, lengthening construction periods, and shift from oil and gas to coal and nuclear generation. The increasing cost of facilities is expected to more than offset the decline in the demand growth rate so that the total amount of capital required for new construction will continue to increase. Despite significant cancellations and deferrals of new plant, private owned utilities expect to spend \$18 billion on new construction in 1976, 16% more than in 1975.

The OPEC oil embargo of 1973-1974 made it clear that the threat to our economy and our national security posed by dependence on unreliable foreign energy sources is unacceptable and that the U.S. must increase its reliance on domestic energy resources. With the quadrupling of oil prices and the decline in the supply of natural gas, it has become increasingly necessary for utilities to shift from oil and gas to cheaper and domestically available coal and uranium. Such a shift would reduce U.S. oil imports and provide lower cost energy to consumers.

Both the President and the Congress recognized the importance of converting utilities to more abundant domestic energy resources. Under the Energy Supply and Environmental Coordination Act of 1974, as amended, FEA is authorized to prohibit power plants with coal burning capability from burning natural gas or petroleum products and to require power plants in the early

planning process to be designed with coal burning capability. A shift to coal use requires significant capital investment not only for coal handling and burning facilities but also for pollution control systems.

Thus, substantial capital investment by the electric utility companies will be required if national energy goals of reduced energy dependence and sufficient energy for economic growth and full employment are to be achieved. FEA estimates that between 1974 and 1984 the electric utilities will need to spend \$200 to \$300 billion (in 1975 dollars) for new plant and equipment to meet long run demand for electricity, depending on such factors as the extent of load management, growth in electric demand, and the portion of electric generation shifted from oil and natural gas.

Effect of AFUDC on Utility Financing

One important obstacle to raising sufficient capital for new utility plant is the exclusion of CWIP from the rate base. Most regulatory commissions exclude CWIP from the rate base and do not allow current cash recovery of return on capital investment in new construction. Instead, a noncash allowance for funds used during construction (AFUDC) equal to the amount of such return is included in current reported income and is added to plant book value. As a result, a significant portion of reported earnings is made up of noncash income. Cash recovery of return on CWIP is realized through depreciation only after the plant is completed and added to the rate base. The cost of financing this deferred

recovery is reflected in rates and borne by the consumer. The reduction in current cash income and deferral of cash recovery of current financing costs associated with ongoing new construction reduce internal cash flow, increase the need for external financing for new construction, and increase the risk of investment in utilities and thus the cost of attracting external funds. The adverse impact of AFUDC on utility financing tends to create a bias against capital investment.

Until the mid-1960s the investor-owned utilities were able to raise internally 40 to 50% of cash expended for new plant and equipment. After 1970, however, because of increased capital expenditures accompanied by decreased cash flow earnings, the percentage provided by internal funds dropped to 27%.

The cost per kilowatt of capacity in constant dollars, declined steadily since the 1950s until about 1970, at which point costs turned upward. They have since continued to accelerate. Because of the rapid rise in the cost of new plants, capital expenditures have increased from less than 2 to almost 3 times reported earnings.

Funds for capital investment are generated internally through depreciation, cash earnings retained in the business, and deferred taxes. During the last decade, while plant expenditures have almost quadrupled, depreciation has little more than doubled. The percentage of capital expenditures covered by depreciation has dropped from just under 40% to just under 25%.

Depreciation can be taken only after a plant is in service so that the rapid escalation of the cost of individual plants and the lengthening of construction periods result in more rapid growth in capital expenditures than in allowance for depreciation.

Earnings after dividends have less than doubled over the last decade and, more importantly, the amount of earnings attributable to AFUDC (and therefore unavailable for capital expenditures) has risen from 4% to 31% in 1974 or from \$94 million to just under \$1.6 billion. Rising construction and financing costs and lengthening construction periods have increased the amount of capital costs accumulated during the construction period. Average yield on new utility bonds rose from 4.6% in 1966 to 9.7% in 1974. Direct and indirect construction costs of large coal and nuclear base load plants tripled from 1967 to 1973 and construction periods grew from 5 years for plants started in 1967 to 10 years for plants started in 1974. The full cost of the delivered generating plant has risen by a factor of five. As a result, earnings retained in the business less AFUDC have declined steadily from a net inflow to utilities of \$720 million to a net outflow of more than \$250 million in 1974.

To some extent this decline in cash earnings retained in the business has been compensated by an increase in deferred income taxes, from \$53 million in 1965 to \$835 million in 1974. However, this source of funds is limited since total federal income tax paid in 1974 was only \$563 million.

The net result of increasing capital needs and limited growth in internal funds is that external financing has jumped from \$1.4 billion in 1965 to \$12.0 billion in 1975, or from 45% of total construction expenditures in 1965 to 80% in 1975. Because of insufficient cash flow some utilities have had to borrow in order to pay dividends based on reported earnings.

At the same time that the need for external funds has increased, it has become increasingly difficult for the utilities to raise external funds. Cancellations and deferrals of more than \$20 billion of new plant construction have been announced, affecting 60% of all new capacity scheduled for operation between now and 1985. Although many of these announcements reflect a necessary adjustment to reduced demand projections as well as financing problems, cancellations and deferrals have been concentrated in the highly capital intensive nuclear and coal generation plants and in companies with the greatest financing difficulties.

AFUDC has contributed significantly to the difficulty in raising external funds. Capitalization of financing costs of plant under construction through AFUDC means that such costs begin to be recovered only after completion of the plant (5 to 10 years) and recovery is extended throughout the life of the plant (approximately 30 years). This long delay between capital cost expenditures for new plant and cost recovery increases the risk of capital investment. A utility may well find it more attractive to accept the higher fuel cost of less capital intensive plant

and receive cash immediately to pay for fuel than to construct capital intensive facilities that are more efficient over the long run but which result in substantial delay in recovery of higher capital costs.

AFUDC also increases the risk of utility investment for potential purchasers of utility stocks and bonds. The increasing importance of AFUDC and consequent decrease in the percentage of currently reported earnings that is received in cash reduces the "quality" of earnings. In 1974 31% of reported earnings were represented by AFUDC, which is a call on future earnings rather than a current cash contribution to the financial needs of the utilities. For some companies AFUDC contributed as much as 100% of reported earnings. The decline in quality of earnings increases the cost of debt and equity of financing by utilities and hence the present and future cost to consumers.

Quality of earnings is an important factor in the assessing the value of common stock, and many investors regard future earnings as less important than current cash earnings. As the quality of a utility's reported earnings deteriorates with increased AFUDC, the market price of utility common stock declines, eventually below book value. Continued offerings of common stock below book value lead to further deterioration of per share earnings performance and consequently to increased cost of equity capital. In 1966 market value averaged 2.05 times book value for utility stock. This ratio declined through 1974 and reached its nadir, .67 times book value, in the wake of

the announcement by Consolidated Edison that it would pass its dividend. By June 1975 the average market to book ratio rose to .89, but still well below 1.0.

Prospective bond purchasers also take into account the quality of earnings. Generally, for the purpose of calculating interest coverage, non-operating earnings, such as AFUDC, are only admissible to a maximum limit of about 11% of operating earnings. Investors consider coverage ratios a crucial factor in evaluating debt securities. Over the past ten years, the ratings of the debt securities of more than 70 major utilities have been reduced by bond rating agencies, to a great extent because of a decline in interest coverage ratios. In 1966 the average coverage ratio for utilities was as high as 5.3. But by 1970 it had declined to 3.4 and in 1974 fell to 2.1. Downgrading of bonds results in substantial increases in interest costs. At the end of 1975, the interest rate on a new Baa bond was more than 2 percentage points higher than the interest rate on a new Aaa rated utilities bond.

The exclusion of most AFUDC from interest coverage also restricts the ability of utilities to use debt financing rather than equity financing, which is the more expensive method of raising capital. Outstanding bond indentures prohibit issuance of additional debt unless a certain minimum coverage ratio (usually 2.0) is maintained. Many utilities are barred from acquiring additional capital through issuance of debt and are forced to seek stock even when its market price has fallen below book value. If AFUDC were replaced by current cash earnings,

utility coverage ratios would, on the average, be one-sixth higher and more debt could be issued.

Since 1974 there has been some improvement in the financial condition of the electric utilities. In response to financial problems of the utilities, commissions have granted substantial rate increases. Since, during the same period, many new plants were completed and added to the rate base and new construction was reduced, AFUDC has remained at about \$1.6 billion. Thus, both quality of earnings and interest coverage ratios have shown some improvement. To a significant extent this improvement is due to the substantial decline in 1974-1975 electric demand growth from the historical growth rate and deferral and cancellation of new construction.

As the economy recovers, electric demand is expected to grow at 5 to 6% per year through 1985. With the accelerating cost of new plant, substantial new capital investment will be necessary if future demand is to be met. The financial consequences of AFUDC, which were mitigated by a temporary period of little or no demand growth, will again strain the ability of electric utilities to finance necessary capital investment. When financing is difficult and requires continuous rate relief to offset the adverse effects of AFUDC, a bias against capital investment is created. Utilities will seek to minimize capital investment. They will tend to avoid construction of new capital intensive facilities such as coal or nuclear generation plants and conversion of existing oil and gas plants to coal.

Instead they will rely on oil or gas fired generation plants, thereby increasing U. S. energy dependence and reducing the incentives for development of abundant domestic energy resources.

Inclusion of CWIP in the rate base would remove the bias created by AFUDC against capital investment. First, a larger amount of internally generated cash would be available for investment and construction of new facilities would not cause a deterioration on the quality of earnings. If all AFUDC had been received as cash earnings in 1974, the utilities would have been able to finance internally almost 40% of their total cash expenditures for plant and equipment. Further, financing costs would be recovered as the expenditures were made, reducing the risk of capital investment. Finally, quality of earnings would be improved, reducing the cost of attracting new equity and debt capital. New common would not have to be sold at below book value. Utility interest coverage ratios would increase, reducing the interest that must be offered on new bonds and increasing the extent to which debt rather than equity financing could be used.

Effect of Inclusion of CWIP on the Incentive for Unnecessary New Construction

Several arguments have been advanced against inclusion of CWIP. First, it has been argued that, if a utility can realize return on capital invested in new facilities immediately rather

than waiting for their completion and operation, there will be incentive to begin construction of facilities long before they are needed and to delay their completion until demand for electricity has grown sufficiently to require additional capacity.

Inclusion of CWIP would not create an incentive for construction of unnecessary facilities or prolonged construction. Utility rates are set to cover historical costs which are the recognized expenses of the previous 12 months (called the test period). The return on capital allowed by the commission is based on the capital investment per kilowatt of capacity operating in the test period and equals the cost of attracting capital. Because of the complexities of the regulation process, there is often a delay of 6 to 18 months between a request for rate increase to cover increased expenses and the granting of an increase. Since capital costs per kilowatt of new capacity are increasing, current rates, based on the test period costs, generally yield a return on capital that is less than the allowed return. Since earned return is below the cost of capital, it is to the benefit of the utility to minimize, not maximize, new capital investment.

Further, unnecessary delay in completion of a plant delays return of capital in the form of depreciation. The sooner the utility's capital is returned, the sooner it can be reinvested. Delayed depreciation is contrary to the financial interests of the utility and actions delaying recovery through depreciation

would be avoided. Finally, unnecessary capital expenditures would increase the need for rate increases to cover costs and would stimulate public concern over rates and opposition to future rate increases, including those necessary to cover unavoidable costs. Public pressure against rate increases is already strong enough without the addition of requests for unnecessary rate increases.

Effects of CWIP on Consumers

A second argument made against inclusion of CWIP is that it would increase the cost of electricity to consumers. This argument fails to consider that in the long run inclusion of CWIP results in lower, not higher, rates to consumers. Because capital costs during construction are recovered immediately, there is an increase in rates during the construction period, particularly during the final 5 years of construction. But completed plants can be as much as 20 to 25% cheaper since their stated value on the balance sheet is reduced by the amount of AFUDC that would otherwise have been included. The net absolute dollar cost to the consumer with CWIP is lower since rates will not include the cost of deferring construction financing costs (i.e., the rate of return on unrecovered financing costs).

The savings to consumers from a lower book cost of the plant is realized by consumers over the period that construction costs are amortized. We estimate that the consumer will pay an

increase of 4 or 5% of the value of the plant on average for a period of 3 to 5 years if CWIP is included in the rate base but will save an average of 2 to 3% of the cost of plant for the next 30 years. In absolute dollars the savings to consumers from lower rates over the life of the plant are substantially greater than the cost due to higher rates during the construction period.

Assuming the same cost of capital under either regulatory procedure and a single discount rate for utilities and consumers, the cost of new plant to the consumer in terms of present value is the same whether AFUDC is used or CWIP is included in the rate base. But, since it appears that inclusion of CWIP would reduce the cost of capital to a utility, the cost to the consumer would be lower where CWIP is included under both absolute and present value analysis.

Although the net effect of inclusion of CWIP would be beneficial for consumers, FEA is acutely aware that sudden utility rate increases would put severe strain on many consumers. For this reason we support gradual introduction of CWIP into the rate base.

Effect of CWIP on Competition in Bulk Power Supply

A third argument made against inclusion of CWIP at the FPC level is that it would discourage wholesale customers from constructing their own generation facilities and therefore reduce competition since these customers will already be paying the cost of future facilities of utility from which they are currently

purchasing power. But the fact that a consumer might consider building his own generation facility does not mean that he should not pay for the system costs of electricity he purchases.

Utilities are ongoing systems with the legal responsibility to provide for future energy needs. The assurance of sufficient energy supply in the future affects current economic activity and benefits current consumers and, because of pooling and inter-connections among utility systems, the future viability of one utility system affects adjacent systems. It seems unreasonable for a current consumer to be allowed to avoid the costs of maintaining an ongoing energy supply system merely because sometime in the future he may seek alternative sources of energy.

Further, it is unclear that inclusion of CWIP would in fact create a substantial disincentive for construction of generation facilities by wholesale customers. Although a wholesale customer contemplating construction of his own facility would, during the construction period, be paying for a portion of the capital costs of facilities being constructed by the utility, the customer can avoid the bulk of the cost of new facilities (i.e., depreciation) which is charged through rates only after the facility is in service. Also, it is unclear why an increase in the cost of purchased power due to cash return allowed on CWIP should discourage development of alternative sources of electricity. On the contrary, higher rates would seem to make alternative sources more attractive and economically feasible.

Conclusion

FEA supports inclusion CWIP in the rate base by regulatory commissions. Such a regulatory policy would increase utility cash flow, improve the ability of utilities to attract external financing, and thereby facilitate realization of national energy goals. Moreover, it would benefit consumers by reducing the cost of capital to utilities and, thus, the costs which must be recovered through rates and by ensuring adequate future energy supply.

TESTIMONY OF
ALFRED E. KAHN, CHAIRMAN
NEW YORK STATE PUBLIC SERVICE COMMISSION

Before the
U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE
SUBCOMMITTEE ON ENERGY AND POWER
ON H.R. 12461

WASHINGTON, D.C.

April 7, 1976

This is an extremely impressive bill. As I am sure you will by now have discovered, it is bound also to be very controversial.

It is, I believe, undeniable that the bill addresses itself to a closely interrelated set of problems that are at least national in their scope. And they are problems also of very great importance to our country.

For these reasons, I think it is not only fitting that Congress address itself to these problems: I think it is very desirable that it do so.

Finally, to complete this set of very general and summary observations, I am fundamentally in agreement with the bill's general approach to those problems. As I see it, that approach is an integrated one -- designed to conserve our energy supplies, and to improve the efficiency with which we make those supplies available to us.

Although, having had the opportunity of studying earlier versions of this bill, I can see clearly the many ways in which it has been altered, and in my judgment improved, in the light of criticisms of the kind that I have raised, I continue to have genuine uncertainties about some of its provisions, and reservations about others -- particularly those provisions that seem to be unrelated to the central purposes of promoting efficiency and conservation.

My continuing uncertainties relate principally to the question of whether it is in all cases either necessary or desirable to set highly detailed legislative specifications at the federal level, and to what extent, instead, it is desirable to leave a wider range of discretion to independent regulatory commissions and to the states. As for the former, it is as a result of long historical experience that we have come to recognize the impossibility of providing in advance by legislation rules that will be suitable for all times, places and circumstances, and the corresponding importance therefore of giving administrative agencies leeway to apply the general policies with discretion in the light of those varying circumstances.

As for the second, it is, as I say, undeniable that the federal government has a compelling interest and an obligation to ensure efficiency in the use of our limited energy resources and a minimum dependence upon foreign, cartel-controlled oil, and to use its authority over interstate commerce to supplement and reenforce state regulations directed toward the same end. But when it comes to areas of essentially social policy, I have doubts about how far it is desirable to go in restricting the discretion of the several states.

The heart of the bill, from my point of view, is the provisions that mandate cost-based, and specifically incremental cost-based pricing, prices that would vary by time of consumption, and requiring the full exploration and implementation, to the extent it is economically feasible, of the entire range of load management techniques -- section 204, on this last subject, strikes me as excellent. The basic injunction that rates be based on cost fits integrally, as I have already suggested, with the other provisions which attempt to attack and control these costs -- to improve

efficiency, encourage long-range planning and inter-company integration, improve system reliability, and, to the extent it proves sensible -- I applaud the provision for study of this question by the FPC and the FTC -- to foster competition.

I know that you have already taken extensive testimony on the pricing portions of the act, some of which I have already had an opportunity to read and there is therefore no reason for me to duplicate the comments on the fundamental validity of incremental cost and time-of-consumption pricing principles, of which I am a strong proponent. As a state regulator who is trying to put these principles into practice, to the extent it proves sensible to do so, I can only applaud the proposed use of your authority over interstate commerce to supplement and reenforce such efforts, by closing the door to competition among the states in avoiding them. Since these efforts have been widely misunderstood, I feel I must emphasize that incremental cost and peak responsibility pricing are not and should not be employed as devices for subsidizing residential consumption at the expense of commerce and industry. As an economist, I most emphatically do not subscribe to the vulgar popular misconception that one can serve the interests of the "consumer" by soaking industry; on the other hand, and speaking also as an economist, I think it desirable that states trying to base rates on economic cost not be prevented from doing so by the fear of loss of employment to states that decline to do so, especially when there is a powerful national interest in promoting those ends.

There is an additional aspect of the federal government's proper interest in peak responsibility pricing that I should like to emphasize. It appears that the capital needs of the electric industry during the next decade are likely to be very large, and to put a strain on our available resources. In view particularly of the encouragements that our Federal Income Tax laws provide for the construction of new capacity, it is particularly desirable to

ensure that the construction of additional capacity is not inefficiently promoted by rates at the time of system peak demand below incremental costs.

Indeed, in light of these considerations, I think it would be an entirely proper enforcement device to make the provision of these tax incentives, and the investment credit in particular, contingent upon the utility companies demonstrating their use of these pricing principles to the maximum feasible extent in their rate structure presentations to regulatory commissions.

There is logic, of course, in the enforcement device provided here, in paragraph (c) of Section 203 -- namely, that construction work in progress not be permitted in rate base unless the utility company's rate schedules conform to these requirements -- since the purpose of the former provision is, precisely, to make it possible for companies to finance additional construction. It makes sense to deny that arrangement in instances in which the need for building the additional capacity has not been subjected to the proper market test -- by which I mean to refer not only to pricing based on incremental cost principles but also to cost-effective load management, as prescribed in Section 204. I suggest that the Committee consider the tax incentive device as an additional enforcement mechanism.

I turn now to a brief identification of the provisions about which I have much greater uncertainty, for the two related reasons that I have already described -- namely, where I fear the legislative provisions seem to me to leave possibly inadequate room for flexible administrative determinations in the light of varying circumstances of time and place, and questionable intrusions of federal social welfare policies in areas that might, consistently with the central purposes of the act, better be left to the several states. I qualify these reservations by emphasizing that, to my regret, I have not had the opportunity to study the bill with as much care as I

would like, and it is possible in more than one of these cases that I have failed adequately to appreciate the ways in which the law has been rendered more flexible by its recent revisions.

I begin with the central operative provision of Section 203 (a) (1), which provides that rates to each customer or customer class be designed "to the maximum extent practicable, to reflect the costs...." Precisely because I am in basic agreement with this provision, it serves as a useful illustration of my residual uncertainties about the desirability of denying states almost totally discretion in these matters. For example, there is a long and widely accepted regulatory tradition that customers should, within reason, be insulated from painfully abrupt changes in rates resulting from sharp shifts in the burden of revenue requirements among customer classes -- even where those shifts might be justified on cost grounds. Yet this paragraph would seem to preclude any such policy. Some states may, from time to time or as a matter of basic policy, wish explicitly to subsidize some classes of consumption at the expense of others: it is not totally clear to me that the federal government ought to prevent such subsidies, except where they have the effect, as the bill states at the outset, of placing "states which implement rate reforms...at a competitive disadvantage by reason of the failure of other States to implement such reforms...." (Section 102)

I observe, next, that the provision for so-called Lifeline rates, in paragraph 3 (A), of course departs from these principles, and causes me to question whether the federal government should impose this kind of social welfare internal subsidization on the states. As an economist, I am inclined to be very leery about tinkering with price as a means of achieving income distributional purposes -- and particularly with reducing price to all users, whatever their income, for certain volumes of consumption.

On the other hand, I must observe also that the provision, as it is now drawn, is much superior in economic terms to the usual lifeline rate provision, in a number of ways: first, in exempting states which make alternative provisions for relieving low-income

consumers (since, however, I presume that all states have some provisions for welfare or relief, I wonder whether -- apart from requiring an explicit assertion to that effect by the Governors -- this exception does not totally invalidate the lifeline provisions); and in neglecting to stipulate a specific lifeline rate. I observe, moreover, that the passage is now carefully drawn so as not to require the extension to all customers within the lifeline bracket of especially low, cost-based rates that may be established for off-peak consumption; and by confining the provision to the "consumer's principal place of residence," it overcomes the problem of an unjustified extension of lifeline rates to second homes, vacation homes, or second apartments. (On the other hand, I have some concern about the administrative costs that will be involved in making the identification.)

I am uncertain whether the provision is adequately drawn to prevent its requiring that the lifeline consumption bracket for customers who pay only a kWh charge be extended the possibly very low kWh rates charged to other customers who are also subject to a demand charge -- this would be clearly undesirable -- or who pay lower rates because they take current at a higher voltage.

I must confess to considerable uncertainty, next, about the provision requiring the exclusion of all expenditures for political, promotional, or institutional advertising from revenue requirements. The exclusion of obviously political advertising seems to me unexceptionable, although I am frankly uncertain about the desirability of excluding from rates modest expenditures for providing a utility company's views on such public issues as the desirability of nuclear power; and, once again, I am not certain that this kind of decision could not properly be left to the individual states. With respect to purely promotional advertising, we do have such a prohibition in New York State; but I must confess to some uneasiness with it, for at least two reasons. One is that in many uses electricity competes with alternative fuels, notably oil; and it seems to me inequitable to permit unrestricted advertising of, for example, oil

heat by the unregulated oil distributors while rigidly tying the hands of the competitor. I think the Committee should consider the implications of the fact that organizations of oil distributors are among the most vociferous proponents of these bans on promotion by electric companies.

Second, while it appears to be the general case these days that incremental costs tend to exceed average revenue requirements, this is less likely to be the case in states which regulate their utility companies on a reproduction cost or fair value basis, and may cease to be the case when and as inflation has subsided for a considerable period of time, and/or economies of scale once again emerge as a powerful influence in this industry. In these circumstances, incremental costs may, as they seem to have in the past, once again be lower than average revenue requirements; and in these circumstances, both economic efficiency and the welfare of ratepayers as a whole may justify promotional expenditures, provided the additional business that they succeed in promoting covers incremental supply costs, including the costs of the promotion itself. Here is a case, in other words, in which a rigid statutory proscription, possibly appropriate to the time when it was enacted, may prevent the recognition of changing circumstances, to the detriment of consumers and the economy.

Finally, I confess to some uncertainty about the flat provision with respect to institutional advertising. It seems to me arguable, at least, that some modest expenditure of this kind may properly be regarded as a legitimate cost of a utility company's doing business, particularly these days when the companies are subject to a great deal of violent and often unjustified criticism. In these circumstances, the wisdom of a flat proscription by the federal government, which would be binding upon individual states that thought otherwise, seems to me of questionable validity. Why should the federal government tell the several states that they may not incorporate some provision for institutional advertising in the rates

they allow? What federal purpose is served by such a provision? I find it difficult to think of one -- even if we in New York State followed precisely this same policy.

I am inclined to feel, similarly, that the provisions with respect to automatic adjustment clauses are simply too rigid. I do in this case recognize the logical relationship between this provision and the overall purposes of the statute: no regulator can be indifferent to the possibly deleterious effect of automatic adjustment clauses on incentives to hold costs down. But there are circumstances -- such as occurred in the winter of 1973-74 -- in which this provision could well have jeopardized the solvency of electric companies heavily dependent upon foreign oil; and what if a state agency concludes that, all things considered, a 90% or a 95% automatic pass-on, without full evidentiary hearing, best serves the interests of the ratepayers, providing a continued incentive to the utility company to hold its costs down, while also protecting it sufficiently against the risk of sudden changes in fuel costs to keep the investment community willing to supply it with capital at low rates?

The same observations in my judgment apply to the flat prohibition of automatic pass-alongs of increases in the cost of inputs produced by affiliated companies. I have myself written at length about the dangers of vertical integration in regulated industry -- the danger, that is, that a utility company may effectively exploit consumers by paying high, non-competitive prices for raw materials and other inputs in whose supply it has a financial interest. On the other hand, especially in these days of great uncertainty about the future costs of coal and uranium, many regulators are thinking that it may be in the long-run interest of consumers to permit -- indeed, to encourage -- electric companies to acquire their own sources of supply until this Committee has in fact decided, on the basis of a careful analysis, that these steps are undesirable, I think it would not be responsible of it to retain this prohibition.

Another example of what seems to me excessive and self-defeating rigidity in the application of a very sensible principle is provided by Section 205 (b). After asserting the laudable principle of marginal cost-based rates, it then goes on to say that "no State regulatory authority...may allow any increase in any rate" "except after an evidentiary proceeding" in which a wide range of findings of fact are stipulated. This seems to me much too rigid. It is not necessarily economically sound that a full cost analysis of this kind be required to be performed every time a company asks for a rate increase. And what about the provision of interim rate increases, such as may be required in something close to conditions of financial emergency -- in which instances we in New York typically do not alter rate structures at all? It would surely be essential to qualify this tight prohibition to permit of interim rate adjustments, for example, or findings by regulatory commissions that cost of service analyses accepted in previous rate cases are still reasonably applicable.

I hesitate to comment on Section 306, which amends the Federal Power Act to include a flat prohibition of the inclusion of any portion of construction work in progress in the rate base, since this area is outside my own jurisdiction and intimate knowledge. It strikes me, however, that a flat prohibition of this kind simply makes no sense. We at the New York Commission have found it desirable, and in the interest of customers, to permit utilities to include in their rate base an allowance for non-interest bearing construction. Moreover, we have, selectively, at times allowed some portion of interest-bearing construction.

The reasons for the latter are several, and they are persuasive. When a company has a disproportionate part of its income generated in the form of interest during construction, for which there are no associated sales, there is a tendency for the market to discount those paper earnings, with the consequence that the cost to the company of raising capital is increased. In some cases, bond indentures do not permit the company to include all of this income in

coverage computations, and the alternative to including some construction work in progress in the rate base is to offer them a much higher rate of return on equity. The latter is more injurious to the customer than the former, because putting some construction work in progress in the rate base is a substitute for capitalizing an allowance for funds during construction until such time as the facility is placed into service; in effect, therefore, it gives the ratepayer a return on his investment: when some construction work in progress is put into the rate base it ceases to accrue interest. It therefore does not necessarily raise the net cost to the consumers; it is often a substitute for providing a higher return on equity, and permits companies to raise capital on more favorable terms.

For these reasons this provision is also unenforceable. Like any other State regulator, I have an obligation to make it possible for the companies I regulate to raise the capital they require to serve their customers at the lowest possible costs. If you deny me the right to enable them to do so partly by putting some construction work in progress in the rate base -- a method that, as I have just suggested, is at times more in the interest of customers than the alternative of a higher return on equity -- I would be forced to resort to the alternative; and there is no way in which Congress can pass a law to prevent that circumvention by prescribing a specific return.

I should think that these considerations would apply just as much to the Federal Power Commission as it does to the state regulators.

I feel competent to speak only in much more general terms about the remaining provisions of Title III, and particularly the sections on bulk facilities, access to transmission capacity, reliability standards, and the feasibility of competition in the industry.

I am certainly in general agreement with the provision for non-discriminatory access to bulk power facilities, for giving the Federal Power Commission authority to order interconnection and compulsory wheeling, all with the proper safeguards that are set forth on page 35 of the bill. And, as a matter of general principle, I am in favor of providing as free play as possible to competition even in the regulated industries, in the sense, at least, of creating a rebuttable presumption in favor of competition, wherever it is feasible. I am frankly uncertain about the extent to which direct inter-company competition is feasible in the electric industry, however, and whether vertical and horizontal divestiture would in fact be desirable. I do therefore applaud the provision for intensive consideration of these questions, as the bill itself provides.

I hope I have, by my comments, demonstrated that I not only take this bill seriously, but that I regard it as important, and worthy of the most serious consideration. I am grateful for the opportunity you have given me to comment on it.

The first part of the paper discusses the importance of the study and the objectives of the research. It then proceeds to a literature review, followed by a description of the methodology used in the study. The results of the study are presented in the next section, followed by a discussion of the findings and their implications. The paper concludes with a summary of the main points and a list of references.

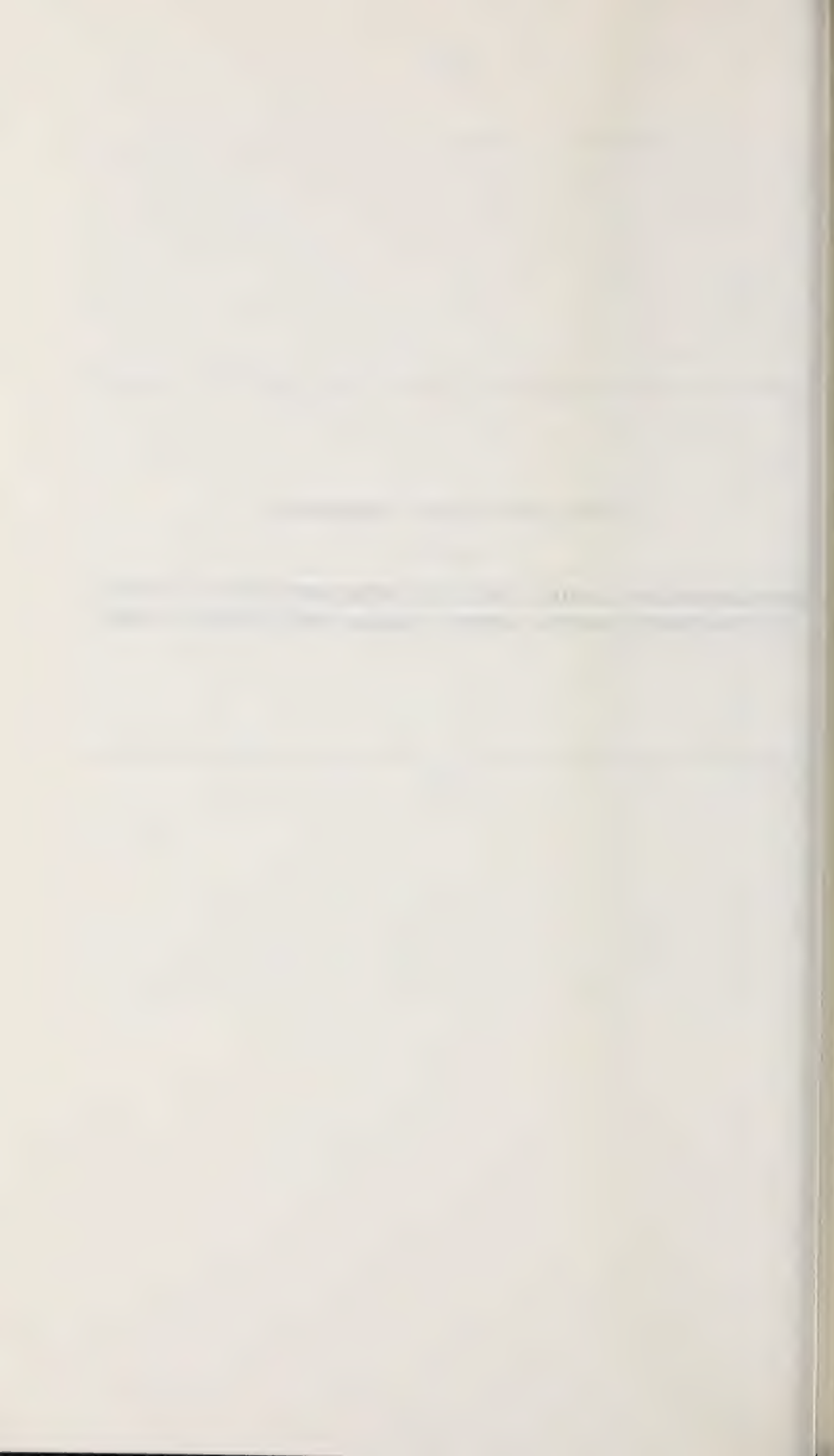
The study was conducted in a laboratory setting, using a series of experiments to measure the effects of the treatment on the response of the subjects. The results of the study are presented in the next section, followed by a discussion of the findings and their implications. The paper concludes with a summary of the main points and a list of references.

The study was conducted in a laboratory setting, using a series of experiments to measure the effects of the treatment on the response of the subjects. The results of the study are presented in the next section, followed by a discussion of the findings and their implications. The paper concludes with a summary of the main points and a list of references.

The study was conducted in a laboratory setting, using a series of experiments to measure the effects of the treatment on the response of the subjects. The results of the study are presented in the next section, followed by a discussion of the findings and their implications. The paper concludes with a summary of the main points and a list of references.

PANEL ON UTILITY FINANCING

STATEMENTS OF: IRWIN M. STELZER, SHEARON HARRIS, J. LESLIE
LIVINGSTONE (CHARTS), JOHN F. CHILDS, AND JEROME E. HASS



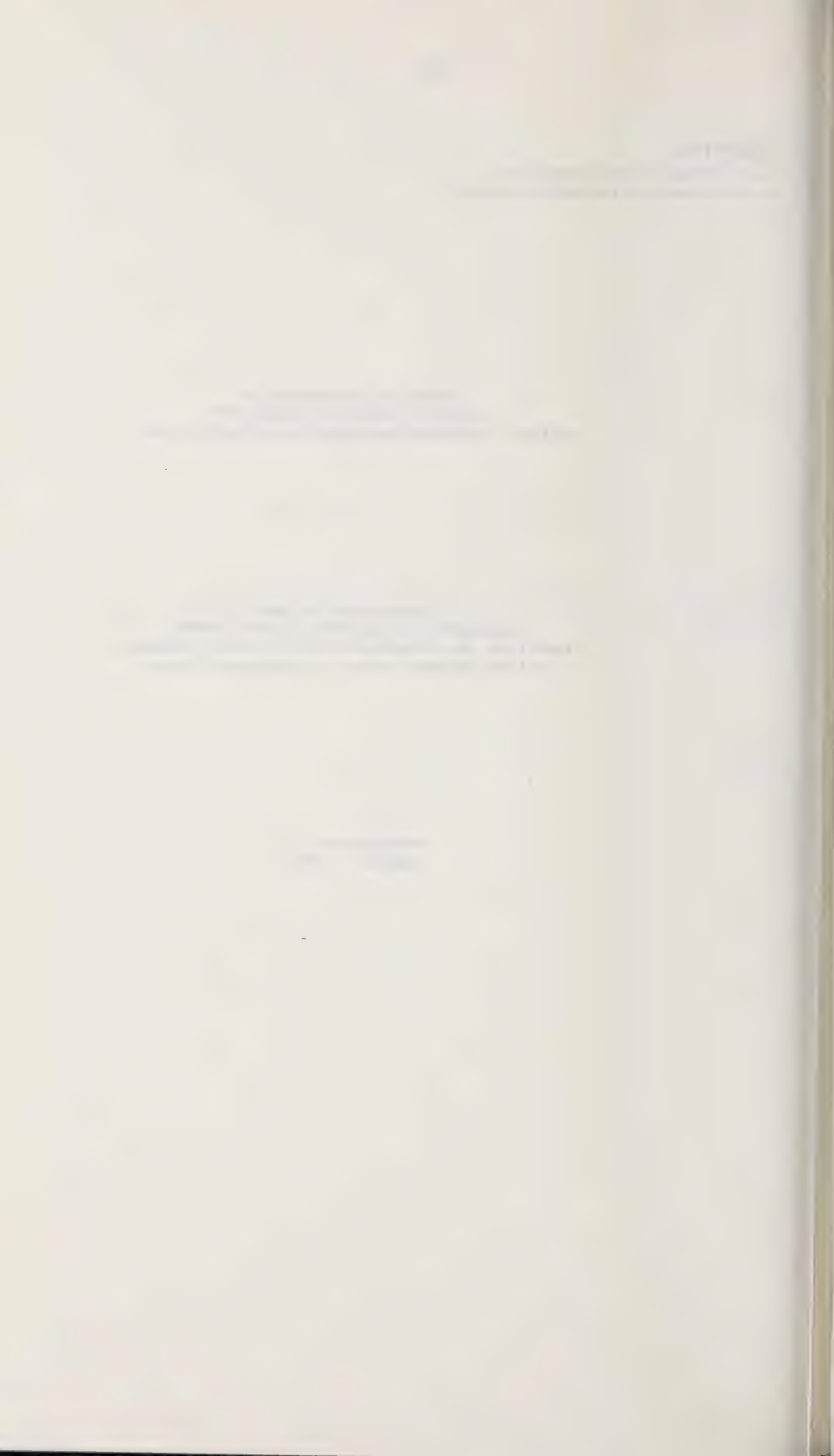
n/e/r/a

NATIONAL ECONOMIC RESEARCH ASSOCIATES, INC.
NEW YORK / WASHINGTON / PHILADELPHIA / LOS ANGELES

PREPARED STATEMENT OF
IRWIN M. STELZER, PRESIDENT
NATIONAL ECONOMIC RESEARCH ASSOCIATES, INC.

Submitted to the
Subcommittee on Energy and Power
Committee on Interstate and Foreign Commerce
United States House of Representatives

Washington, D.C.
April 7, 1976



PREPARED STATEMENT OF
IRWIN M. STELZER, PRESIDENT
NATIONAL ECONOMIC RESEARCH ASSOCIATES, INC.

Submitted to the
Subcommittee on Energy and Power
Committee on Interstate and Foreign Commerce
United States House of Representatives

My name is Irwin M. Stelzer. I am an economist and President of National Economic Research Associates, Inc. I should at the outset repeat what I noted in my earlier appearance before this Committee--that while much of the research underlying my testimony has been financed by a group of utilities over a period of several years,¹ the views expressed are my own, and not all of my clients agree with all I have to say.

I. INTRODUCTION

It is evident that H. R. 12461 is motivated by a commendable concern with improving the procedures by which electricity rates are set. Indeed, Title I enumerates explicitly many of the important goals that could be promoted by the adoption of certain rate policy innovations. For the most part, the recommended reforms appear to be directed towards enriching the quality of price information provided customers, to encourage them to make more efficient use of electricity--both in terms of the quantity they demand and when they demand it.

¹ See Attachment A.

But from the perspective of both the welfare of individual consumers and the functioning of the economic system, the price charged for electricity represents only part of the economic picture. The remainder, at least as important, is the supply that can be made available at that price. It would do little to enhance the interests of consumers to put them in a position of not being able to buy power at the exquisitely appropriate rates which we economists will devise for them pursuant to Title II. To achieve a successful reformation of ratemaking procedures, we must both discourage uneconomic construction and be certain that the industry can raise capital to meet economic demand levels.

In this respect, the provisions in H. R. 12461 pertaining to rate treatment of construction work in progress (CWIP) and automatic adjustment clauses merit special attention. Sections of this legislation would limit to 66 $\frac{2}{3}$ percent the proportion of CWIP that could be included in rate base for the purpose of state regulatory proceedings, and would prohibit altogether the inclusion of any CWIP in the rate base in cases subject to FPC jurisdiction. H. R. 12461 would also restrict both the percentage increase in rates permitted by an automatic adjustment clause, and the scope of items that might be covered by such a clause.

The effect of these provisions, as I shall demonstrate later, would be to imperil many of the bill's declared objectives. For rate structure reform to accomplish its

intended ends, it must be accompanied by measures which foster the ability of electric utilities to provide the electricity demanded. But by restricting the scope of automatic adjustment clauses and deterring the inclusion of CWIP in rate base, as H. R. 12461 does, utilities would be denied important avenues for improving their financial health, thus jeopardizing their ability to deliver adequate supplies of power. And consumers would eventually pay more, not less, for their electrical energy, as utilities' cost of capital rose and as the artificially low rates accelerated demand. In other words, if Title II seeks proper signals, the provisions of Sec. 203(c)(1) and Sec. 306 preclude companies from providing those signals.

In saying this, I do not mean to imply that the benefit of automatic adjustment clauses and inclusion of CWIP in rate base resides solely in their ability, by strengthening the financial position of utilities, to promote adequate power supplies. In addition, they provide real financial advantages to consumers, which I shall discuss later. But first, to explain my concern about the deleterious effect of Sec. 203(c)(1) and Sec. 306 on the long-run supply of electricity, I would like to review the awesome difficulties utilities presently face in raising the amount of capital they will need over the next 10 or 15 years to meet the needs imposed by their customers, to permit rising productivity in a full employment economy, and to play their role in decreasing our dependence on OPEC oil.

II. CAPITAL NEEDS AND SUPPLY ADEQUACY

A. Capital Needs

The capital requirements of the electric utility industry are enormous. Over the next 15 years, depending on load growth, the industry will have to raise somewhere between \$450 and \$600 billion, measured in 1975 dollars. Even if we assume that capital requirements are at the low end of that range, the needed capital would correspond to over 30 percent of the entire Gross National Product produced in 1975; to make a comparison perhaps more familiar and poignant, this sum comes to 75 percent of the current national debt.

These requirements will have to be increasingly externally financed, with the sale of new common stock accounting for unprecedented proportions. Do not be deluded by the fact that the market for utility stocks has strengthened recently; that recovery has brought the industry back only to the unhealthy condition prevailing just before the total collapse of utility stocks in the Spring of 1974, and has been made possible in good part by the recession's effects on other industries and on growth rates. There remains a real danger that attempts to sell huge amounts of common stock will initiate a downward spiral in utility stock prices, in which lower book values per share result in lower allowed earnings and still lower market prices which, in turn, drive book value down further--all to the point of making investors unwilling to buy any large amounts of utility common stock.

In describing the magnitude of these capital needs, and the problems they are likely to create, I do not mean to suggest that every capital dollar expended by the industry in the past was necessarily spent in the most efficient fashion or that every utility did everything it could to minimize its capital needs. Indeed, my firm has been in the forefront of efforts to revise utility rate structures to keep demand growth at economic levels--a matter with which the rate reform provisions of H. R. 12461 are importantly concerned--and of efforts to have demand forecasts and related construction programs account for price elasticity effects. But I am saying that by and large the forces causing utilities to account for twice as much of industry's capital demands as in earlier years are extrinsic to the electric business and largely beyond the control of the industry and its regulators.

The consequence of all of this is a familiar problem: utilities need capital and lots of it, under any reasonable assumption you may care to make about future demand growth rates--including the moderating effect of peak-load pricing and load management. What is not so generally understood is that the high rate of capital expenditure relative to existing plant produces strange consequences. In the mid-1960s capital expenditures by investor-owned electric utilities averaged 5 to 6 percent of gross plant; now they run at twice that rate. But internally generated funds are only 4 or 5 percent of plant. Thus to pay for construction which is running at 12 or 15

percent of plant requires massive external financing. This, in turn, causes an astounding increase in the proportionate reliance on external financing--from less than half of utility capital needs in the early 1960s to 65 to 80 percent in the early 1970s. And this increased resort to capital markets gives rise to a related phenomenon: an increasing portion of the increasing amount of capital must be raised by selling stock. Such sales of equity, which accounted for 5 to 8 percent of utility capital spending in the early 1960s, now account for 15 to 20 percent of capital spending. Thus, the sale of utility stock has more than quadrupled in the past few years.

And this trend is likely to continue, as high interest costs further erode coverage ratios and make it impossible to sell debt in amounts needed to pay for construction, let alone to maintain capital structures. As older, low interest debt is refunded, more and more earnings dollars cover less and less borrowings, so that any given level of rate of return permits less and less borrowing. This will force many utilities to increase their common equity ratios, further increasing competition for such funds.

Will it be possible for the electric utility industry to raise the needed amounts of capital? The economist's immediate temptation, when presented with such a question, is to answer, "Yes, but at a price." And the terms and conditions governing the utilities' payment of a return on capital may seriously impair their ability to function successfully in present capital markets.

We can conclude that in order to be able to induce investors to make capital available, utilities must be allowed to offer, when necessary, sufficiently attractive returns to investors. Inclusion of CWIP in the rate base would promote this goal by providing the utility with earnings of higher quality, that is, earnings with a higher component of cash and a smaller component of accounting profit. And automatic adjustment clauses can lessen the instability of earnings produced by unforeseeable swings in utility costs and sales; upward and downward movement of rates in closer step with costs will also improve earnings quality, and will provide consumers with even more accurate price signals. But before elaborating this point, I would like to discuss another matter--the likely economic consequences if utilities were unable to raise the massive amounts of capital they will need over the next 15 years.

B. Supply Adequacy

Title I of H. R. 12461 quite properly addresses the problem of supply adequacy. The bill observes that:

(1) the continued generation and transmission of an adequate supply of electrical energy at reasonable rates is critical to the Nation's defense, a sound and stable economy, and the general health and welfare of the people of the United States;

and that:

(8) shortages and unreliable supplies of electric energy would jeopardize the normal flow of interstate and foreign commerce by creating severe economic dislocation, including loss of jobs, closing of factories and businesses, and curtailments of vital public services.

Thus, those provisions which impede the ability to raise new capital, and which would result in forced reduction in the construction of new capacity, contravene these laudable objectives. Many of the postponements and cancellations of new plants announced over the last few years are attributable in part to financing difficulties. Do not be misled by announcements that they are related solely to revised demand projections. If only a handful of utilities experienced some difficulty in attracting the funds required to finance needed capacity expansions, then those utilities might be able to import power from other systems. But a recent study done by my firm confirms the wisdom of Title I's concern about the adequacy of power supply: we have found that a national capacity shortage could cause significant losses of GNP, and produce a short-term increase in unemployment. These extremely costly consequences of a potential capacity shortage lead me to be very apprehensive of any measure which could impair the progress of putting utilities on firmer financial footing. That is why I am deeply concerned about the treatment in H. R. 12461 of CWIP and automatic adjustment clauses, topics which I propose to discuss now in some detail, and in that order.

III. INCLUSION OF CWIP IN THE RATE BASE

Sec. 203(c)(1) of H. R. 12461 would limit to 66 2/3 percent the amount of CWIP that state regulators could permit

to be included in the rate base, while Sec. 306 would amend the Federal Power Act in such a way as to prohibit the FPC from including any portion of CWIP in the rate base for rate-making purposes. This proposed treatment of CWIP is, in my view, inadvisable for a host of reasons.²

1. It would prevent state regulators from developing the rate policy best suited to the particular circumstances of their jurisdictions. And the provision which would statutorily prohibit the FPC from including CWIP in the rate base in those cases over which it has rate jurisdiction may be gratifying to the municipalities--most of which are exempt from the rate reform provisions of Title II--but it demonstrates a build now, pay later attitude which, as is now clear, does catch up with the customer before too long.³

2. It would tend to increase the cost of capital to utilities, compared to the terms on which they could raise new capital if CWIP were included in rate base.

² Attachment B, hereto, attempts to explain in relatively simple terms some of the jargon used in discussion of this issue.

³ If a plant actually costs \$500 million to build, it may ultimately go into the rate base, when it is completed, at \$600 million or \$700 million. The extra \$100 or \$200 million reflects the capital carrying charges on the plant while under construction. Thus, when the plant goes into rate base, consumers start paying considerably higher rates because of all the accumulated AFDC. If CWIP were included in rate base, the consumer would pay the interest costs on the plant expenditures while the plant was being built, but the plant, when completed, would only go into rate base at its \$500 million cost, and consumers would pay lower charges for return and for amortisation over decades to come. Thus, the issue of CWIP boils down to when the consumer pays for the capital used to build the plant.

3. It would, by making financing more difficult, add to the danger of inadequate power supply.

Let me treat these three points in turn.

1. Impact on state regulators: The argument for leaving state regulators free of federal constraint in the treatment of CWIP is not simply a states' rights position. Rather, it is one which recognizes that differing growth rates impose different problems for regulators, and some may choose to respond by incorporating CWIP in the rate base. Indeed, given the existing predisposition of regulators to exclude CWIP, the greater national concern should be to encourage flexible inclusion, if necessary, to assure adequate power supply. At minimum, the Committee should leave this issue to the regulators; at maximum, it should encourage them to include CWIP in rate base.

2. Effect on cost of capital: Exclusion of CWIP may result in a substantial rise in the utility's cost of capital. Studies performed by my firm indicate that the cost of equity of the average utility would have been about 1.0 percentage point lower if it had cash earnings in place of noncash AFDC. Furthermore, inclusion of CWIP in rate base would also lower the cost of debt of utilities and would increase their ability

to borrow.⁴ Our best estimate is that inclusion of CWIP in rate base would lower the cost of new debt by 0.5 to 1.0 percentage point. These reductions in the cost of debt and equity capital are not trivial. It would be equivalent to reducing the cost of a typical nuclear plant by almost \$100,000,000, and would ultimately lower rates to consumers by 4 to 5 percent.

3. Inadequate power supply: The increased cash flow and the improved credit standing of utilities would remove many of the legal and economic limitations to the amounts of capital that utilities are able to raise, and thus reduce the likelihood of a serious capacity shortage precipitated by insufficient investment funds. This is particularly important since inclusion of CWIP in rate base would provide the greatest financial assistance to precisely those utilities which most require it--the utilities with the largest construction programs.

⁴ Because AFDC is not taxable, the pretax coverage of a utility with a good deal of AFDC will not be as high as its reported earnings would lead one to expect. Thus, if the utility were to have cash earnings instead of capitalized AFDC, its tax liabilities would be greater and hence its pretax coverage would be greater. This in turn implies lower interest rates, since the coverage ratio is the main factor affecting the interest rates paid by a utility. In addition, because the utility needs to sell a smaller volume of bonds and/or stocks when its cash earnings are higher, it becomes easier to sell these securities on reasonable terms. Thus, the cost of debt and/or equity will be reduced solely by virtue of the smaller amounts that have to be sold.

My conclusion, therefore, is that it would be highly inadvisable to circumscribe or completely prohibit by statute the inclusion of CWIP in the rate base. Some state commissions have begun to respond to the above-described realities by including some CWIP in the rate base; they do so only reluctantly, abandoning traditional methods only in the face of overwhelming evidence that such methods, adhered to much longer, would cause the cost of capital to utilities under their jurisdiction to be unnecessarily high; would cause rates over the long run to be higher than necessary; and would increase the danger of a serious capacity shortage by adversely affecting utilities' access to capital. They should, at minimum, be permitted to continue on this course.

IV. AUTOMATIC ADJUSTMENT CLAUSES

Sec. 203(b) and Sec. 305 of H. R. 12461 would impose respectively on state and FPC proceedings limits on the use of automatic adjustment clauses. This Committee has already received excellent statements from Messrs. Browne, Debevoise and Geist dealing with some of the problems raised by these provisions, and I shall not repeat them here. I shall instead concentrate on two of what I am certain will be unintended economic effects of these provisions.

1. They would discourage vertical integration by electric utilities into the fuel industries. As Mr. Debevoise noted, the need for fuel producing and buying affiliates is

increasing. This is so both because of rising fuel costs and because major oil company acquisitions of coal and uranium supplies virtually mandate backward vertical integration by utilities for defensive and "yardstick" purposes. If we are truly interested in limiting the market power of the oil companies, now themselves integrated into coal and uranium, we should encourage their customers to seek their own supplies.

2. They would prevent state regulators from liberating themselves from the tyranny of the rate case cycle. Regulatory agencies have limited resources; so, too, do consumer intervenor groups. These resources cannot be optimally employed in an interminable series of costly rate cases. The real factors affecting costs to customers are the quality of system planning, the efficiency of management, and the nature of the utility's rate structure. These problems cannot be addressed in rate proceedings, where the need for financial relief presses upon all parties. Adjustment clauses, properly administered, can permit commissions and consumer groups to deploy their resources most effectively.

V. CONCLUSION

The adverse effects of the CWIP and adjustment clause provisions of H. R. 12461 are of such magnitude that they should be deleted. Indeed, they have an added, thus far unmentioned, unfortunate effect: they divert attention and support from the rate structure provisions contained in Title II. It seems

a pity to reduce the chance for real progress in that area by attempting to give every critic of the utility industry some provision containing his pet "reform" of accounting, financing, planning and regulatory procedures.

ENERGY RESEARCH GROUP

General Public Utilities Corporation

Long Island Lighting Company

New England Electric System

Northeast Utilities

Pacific Gas and Electric Company

Pacific Power & Light Company

Pennsylvania Power & Light Company

Public Service Company of Colorado

Public Service Company of New Mexico

San Diego Gas & Electric Company

Tampa Electric Company

Virginia Electric and Power Company

Wisconsin Electric Power Company

from revenues to get net income. The actual practice, however, was to treat the interest payments as an expense of the business, and then to provide an allowance which would be added to net income (it was generally shown as nonoperating income) and which would be ultimately capitalized. We now call this amount Allowance for Funds Used During Construction, or AFDC. Thus, AFDC is an "income" item, and when the related construction is completed and added to rate base the AFDC is also added to rate base.

A word about the tax treatment of this IDC or AFDC. The interest payment on short-term construction loans is, of course, a tax deduction. But AFDC is not taxable income. Thus, construction work in progress generates tax deductions. The current practice of the FPC is to give current ratepayers the benefit of this deduction, rather than crediting it against the cost of the construction. It should also be noted that when AFDC is capitalized, it does not give rise to tax-deductible depreciation, although it does create a depreciation expense for ratemaking purposes. The reason that capitalized interest cannot be claimed as a tax deduction when it is depreciated is, clearly, that it was already claimed as a deduction at the time it was incurred.

Although the picture that has been drawn is one of capitalizing the interest on short-term construction loans, it must be recognized that this is a schematic and unrealistic way of looking at the matter. There are two reasons. First,

it is no longer true (if it ever was true) that construction is financed with short-term loans. The money derived from short-term loans, long-term loans, sale of stock, and internal cash generation all flows into a single pocket, so to speak; one cannot distinguish which source of funds was used for which purpose. Since construction work in progress is in fact bondable property under mortgage indentures, one cannot even say that construction must be financed with short-term loans. Second, many very major projects today require 10 years from inception to completion; it is obvious that they cannot be financed with short-term debt. Third, construction work in progress typically amounts to 15 to 20 percent of the total plant of the utility. But utilities are simply unable to have short-term borrowings of that magnitude. Short-term loans are generally limited to 5 to 10 percent of total plant, and anything over 10 percent is considered quite hazardous. Since internally generated cash flow of the typical utility will amount to 5 percent of plant, it is not surprising that lenders are uneasy about short-term loans which the borrowers cannot pay out of their internal cash generation.

Thus, today construction work in progress is financed by all sources of funds, not merely by short-term loans. For this reason, the allowance for funds used during construction is an allowance for the cost of all forms of capital. Short-term credit is simply used as a matter of financing convenience. Imagine a construction program costing \$10 million per month.

Of this, perhaps \$3 million per month may be derived from internally generated funds. The remaining \$7 million could be obtained by the sale of bonds or stock, but it is costly to have such small issues. Thus, the utility will make short-term loans from month to month. As the short-term loan balance approaches, say, \$25 or \$50 million, the utility will issue bonds or stocks in that amount, using the proceeds to retire the short-term loans. Then another cycle will begin. Note, however, that although the short-term loans are indeed financing the construction, they are retired long before the construction is completed. In fact, as construction progresses, more and more of it is financed with stocks and bonds, rather than with short-term debt which only finances the last three or six months of construction outlays.

Thus, the actual pattern of financing construction work in progress differs significantly from the traditional view that it is all done with short-term loans. The great bulk of it is in fact financed with long-term securities.

It is often said that AFDC is "paper earnings," and that the AFDC portion of earnings is "poor quality" earnings. The reason is that although AFDC is recorded on the utility's book as part of net income, it is not income derived from current operations. It is, rather, an accounting credit which will ultimately contribute to the utility's earnings when the project is completed and the plant enters the rate base, and the utility actually earns its allowed return on that rate base.

In a sense, AFDC represents a promissory note, and when half or more of a utility's net income consists of an accumulation of such promissory notes, the investor has reason to question the current earning power of the utility.

Let us now consider the character of the proposal to include (part or all of) CWIP in rate base. If this is done, the utility will be allowed current revenues to cover the cost of the capital invested in construction work in progress. Thus, there will no longer be any need to consider this cost as part of the cost of construction. It will be treated instead as a current cost of doing business. When the project is completed, there will be no need to capitalize the interest costs incurred during construction, because these will already have been paid by consumers out of current revenues.

What is the net effect on the consumer of including CWIP in rate base? The effect is basically one of changing the time at which he is charged for the capital costs of construction. Under the present scheme, he pays nothing for the interest cost of construction loans; but when the project is completed, the consumer now must pay off this capitalized interest cost over the life of the plant, and he must also pay a return on the undepreciated portion of the capitalized interest (as well as taxes on both the depreciation and the return). Under the proposed approach, the consumer pays now for the capital carrying cost of construction. When the project is completed none of this cost is capitalized, and therefore the

rate base is smaller by that amount. Thus, the consumer by paying more today will pay less tomorrow--a tomorrow that will last 30 or more years.

Statement of

SHEARON HARRIS, President/Chairman
Carolina Power & Light Company

Before the
SUBCOMMITTEE ON ENERGY AND POWER
of the
HOUSE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE
on
H.R. 12461

April 7, 1976

My name is Shearon Harris. I am President and Chairman of the Carolina Power and Light Company. CP&L provides electric service to about 650,000 customers in the states of North and South Carolina. Electric energy is provided to our customers from a combination of generating sources. In 1975, CP&L's generation by energy sources was 72.5 percent from coal, 22.4 percent from nuclear, 3.8 percent from hydro, 0.5 percent from oil, and 0.8 percent from natural gas. CP&L is a member of the Virginia Carolinas subregion of the Southeastern Electric Reliability Council. I am past president of the Edison Electric Institute and presently Chairman of its Committee on Utility Capital Formation. I am also Chairman of the Federal Power Commission's Executive Advisory Committee and Chairman of the Board of Directors of the Electric Power Research Institute, the research and development agency of the electric power industry.

I am here today to discuss with you the financing of the facilities electric utilities must construct in the years ahead to meet the demand for electric power. I appreciate the opportunity of appearing here with you today to discuss this important subject and commenting on the legislative proposal before you.

ELECTRIC DEMAND

Before discussing the dollars necessary to build the facilities it is first necessary to establish the demand for power and how we expect to meet that demand. It is from this base that the dollars needed can be derived.

In the last year there have been a number of prominent organizations that have made long-range growth projections of electric energy demand.* While each projection bears its own particular set of assumptions and the time spans vary somewhat, most projections fall within the 5.5 to 6.5 range of compound annual growth of electric energy. The Edison Electric Institute projection is somewhat higher, being in the 6 to 7 percent range. Indeed, if growth in the future does average within the figures stated here it will show remarkable accuracy on the part of those making the projections in view of the uncertainties that beset us today. These uncertainties -- economic, environmental, legal and financial -- have already had their effect on generation during 1975. Although residential and commercial sales increased in 1975 by 6.2 percent and 7.0 percent respectively, industrial sales declined 4.5 percent from 1974, resulting in an overall growth of only 2 percent. This condition is not continuing at present, and industrial sales now are increasing. At the present, for example, at CP&L for the first quarter of 1976 industrial usage increased 22.5 percent.

In a recent report, the Federal Power Commission's Technical Advisory Committee on Power Supply went beyond the years most of the forecasters used and estimated electric demand in 1995 and 2000.

* Bureau of Mines, ERDA, FPC, FEA, EPA, NERA.

Here are their conclusions.

STUDY GROUP PROJECTIONS*
CONTIGUOUS UNITED STATES

	1995		2000	
	Peak Demand Thousands of MW	Annual Energy Billions of KWH	Peak Demand Thousands of MW	Annual Energy Billions of KWH
Upper Estimate	1,541	8,640	2,087	11,700
Most Probable	1,399	7,600	1,874	10,180
Lower Estimate	1,225	6,440	1,566	8,230

Note that the most probable projection for the year 1995 is 1,399,000 megawatts of demand and in 2000 the figure is 1,874,000 megawatts. This compares with 358,101 megawatts of actual demand experienced in 1974. This means building more than 4 times the 1974 capacity in the remaining 25 years of this century, and that time is not very far off.

While all of these growth projections are somewhat lower than the average growth rate of 7 percent per year experienced by the nation's electric utilities in past years, it is apparent that the need for and the usage of electrical energy will continue to grow. The report of the FPC's Technical Advisory Committee on Conservation recognized that a limited amount of electricity conservation would be realized through voluntary reduction

* The projections in this table include a consideration by the task force of the net effect of two important conflicting factors. The first, acting to reduce electricity growth, is the pressure for conservation of energy in all its forms resulting from the impending depletion of domestic oil and gas resources, increased environmental protection, and sharply higher energy costs and prices. The second factor, acting to increase electricity growth, is the recognition that a greater fraction of future energy needs must be supplied by coal and nuclear energy, and for many applications electricity is the only practical form in which to utilize those energy sources.

Source: The National Power Survey. Draft report of the Technical Advisory Committee on Power Supply

in use but that the most significant conservation would be achieved through new technology. The Committee's Report said, "It will be seen that effect of new technology on total energy consumption by 1985 is limited," and "...the important conservation effect of new technologies will emerge only toward the end of the century..."* The important point is that demand cannot be materially reduced by any conservation efforts short of a national emergency which would in all likelihood mean a rationing of electric power.

FUELS TO MEET THE DEMAND

With the certainty that there will be an increasing demand for electrical energy in the future, it is the responsibility of electric utilities throughout the country to meet that demand. It is also the obligation of government to make it possible for utilities to carry out that responsibility.

With hydroelectric sites limited and authorizations subject to lengthy regulatory delays and constricting environmental legislation enacted by the Congress, and with the present and expected future shortage of natural gas, only coal and nuclear power can be the primary sources for electric generation in the years to come.

The Federal Power Commission's Technical Advisory Committee on Fuels, in its summary statement, concluded that coal and

*Source: The National Power Survey. Practices and Standards: Opportunities for Energy Conservation. Technical Advisory Committee on Conservation of Energy. Federal Power Commission. December 1973

nuclear power "can provide the basic primary energy for the electric utility industry's growth needs through the balance of this century."* The report indicates that if fuels are available as needed, the use of coal for electric generation would increase from 411 million tons in 1974 to 906 million tons in the year 2000. This would represent 20 percent of the generation in 2000 and would be predicated upon nuclear power providing 65 percent of the generation in that year. However, if nuclear power were to provide only 11 percent of the generation in the year 2000 -- and this is not an unrealistic figure considering the present delays encountered -- then it would become necessary for coal to provide 51 percent of the needed generation. This translates into 2.4 billions of coal in the year 2000. Furthermore, still using the 11 percent nuclear and the 51 percent coal assumption, oil must then provide 30 percent of the generation for that year. This 30 percent represents the use of 4.9 billion barrels in that year.

The point I want to emphasize here is that if the use of nuclear power for electric generation is not increased to near the 60 percent figure we will have an almost impossible task of producing the required substitute coal and an intolerable amount of oil to import at the same time. This Technical Group's study strongly points to the need for solving all of the problems relating to nuclear power.

* Source: National Power Survey. Draft Report of the Technical Advisory Committee on Fuel. Sept. 1974.

The thought of a demand for 2.4 billion tons of coal per year for electric generation at the end of the century suggests a frightening effect upon the cost of generating fuel. I should add here, although somewhat out of my regular order of presenting this paper, that regardless of the percent of nuclear power by 2000 the capital requirements will not materially change. However, the cost of power to the consumer will be significantly increased. This higher cost for power will result from lesser use of the more economical nuclear fuel and the expected additional higher prices for coal under circumstances where demand would far exceed the available supply over an extended period of time.

CAPITAL REQUIRED TO MEET THE DEMAND

We know the demand for electric energy in future years will be there; we know that it must be satisfied; and we have a good idea of how much money it will take to provide that demand.

Again relying on the FPC's Technical Advisory Committees -- their Committee on Finance estimated that construction expenditures of the electric utility industry will increase from an annual rate of \$16-1/2 billion in the first half of the 1970's to about \$23 billion in the last half.* These figures are for all electric utilities in the United States.

*Source: The National Power Survey. The Financial Outlook for the Electric Power Industry. Technical Advisory Committee on Finance. Federal Power Commission. December 1974

I turn now to figures for the investor-owned electric companies because the bill being discussed here, H.R. 12461, would have less effect on the capital-attracting abilities of many important electric utilities -- most of whom are in the government-owned sector.

From 1976 through 1989, construction expenditures of the investor-owned electric light and power companies are expected to total in excess of \$500 billion in current dollars: this is four times the expenditure during the preceding comparable period. (Attachment 1 is a chart showing this breakdown by year.)

The dollars required for the electric utility industry are enormous because it is by far the most capital-intensive industry in the country. For every \$1 of annual revenue, about \$4 must be invested in plant facilities. In contrast, the steel and oil industries, generally considered to be capital-intensive themselves, need only about \$1 of investment for every \$1 of revenue, and the automobile industry requires only about 50 cents of investment for each \$1 of revenue.

In 1964, electric companies were able to provide about 64 percent of the funds needed for new plant investment with internally generated funds, principally retained earnings, depreciation and deferred taxes. However, by 1974, declining earnings and rising prices for the equipment needed to serve utility customers made it possible to finance only 33 percent of capital expenditures in this manner. As a result, the need for financing from outside sources will increase more than proportionately, and, of the \$500 billion needed through 1989, about \$300 billion, or approximately 60 percent, will have to come from the open competitive market.

Obviously, electric companies would need to raise less money on the market if retained earnings could be increased. However, this cannot be done by our industry. Today approximately 67 percent of earnings are paid out as dividends because many stockholders purchased their stock for the cash yield and it is not practical for utilities to change their dividend policy to provide for lower cash dividends to be supplemented by stock dividends as many industrial companies have been able to do.

DIFFICULTIES IN RAISING CAPITAL

The industry has encountered difficult problems in raising the capital necessary to finance the power plants and associated facilities that will be required in forthcoming years to supply the demand of consumers. The problems result from drastically increased costs -- the cost of fuel, the cost of new plant and the cost of capital required to finance the facilities -- in a word, inflation.

But inflation for most companies is different than inflation for electric companies. Industrial companies that pay more for the goods and services they use to manufacture their product can reflect these increases in their prices immediately and pass the increased costs on to the customer without delay. This is not so in the regulated utility area. In this industry there is a built-in delay in obtaining authorization for increased rates to cover the increased costs. Some delay is perhaps inevitable because commissions and their staff must have time to analyze

requests for rate changes. But much of the delay results unnecessarily. Consider that in 1974 the average rate case before the Federal Power Commission took 18 months to complete. For the first 9 months of 1975 this delay has increased to about 22 months. In our business there are no retroactive rate increases -- every day's delay in rate change means that revenue is irretrievably lost. Regulatory lag and inadequate allowance for rate of return are no doubt the main villains in the financial crisis being experienced by electric utilities today.

Because of our inability to recover these costs promptly, revenues are down and the earnings of most companies have fallen drastically. For some there have been inadequate "coverage" of interest and dividends, which, under indenture covenants, limits or prevents the sale of senior securities. Despite improvements during the past year, the market prices of many utility stocks are still below book value, and there is a dilution of the value of existing shares. Because dilution shrinks earning power, investors have become increasingly reluctant to purchase utility equity securities.

In a rate case in 1975 the New Mexico Public Service Commission found:

Moreover, if compelled to do so (sell common stock below book value) in order to raise the new capital it needs to satisfy growing demand for its services, the imperatives of environmental protection and the other urgencies mentioned earlier, its existing stockholders are in a very real sense confiscated, for the book value of their shares will be diluted and diminished, as will be their earnings per share.*

* In the Matter of the Rate Filing of the Public Service Company of New Mexico, Case No. 1196, April 22, 1975.

My own company is an example of the dilution that has occurred. The following figures illustrate what has happened:

Carolina Power & Light Company Common Stock

<u>Date</u>	<u>Per Share</u>	
	<u>NYSE Price</u>	<u>Book Value</u>
Dec. 1966	44-1/4	\$15.16
Dec. 1970	26-1/4	18.35
Dec. 1974	10-7/8	23.35
Dec. 1975	20	22.02

I think it is important to emphasize that the public service obligation of utilities distinguishes our fund-raising needs from those of most other industries. Our industry must raise capital on terms that are, at times, highly uneconomical because we must construct facilities in time to meet our customers' demand. Many industries have the option of delaying expansion and thus delaying the need for additional funds but this does not hold for electric utilities. Electric companies have little room in which to maneuver so bonds must be sold regardless of what the interest rate might be. Common stock, the foundation of our capital structure, must often be sold even when market conditions make such issues unattractive. For example, Carolina Power and Light sold common in January, 1975 at 14-3/4 and again in November, 1975 at 17-7/8. As shown in the preceding table our book value was \$23.35 in 1974 and \$22.02 in 1975 -- considerably above the price at which we were forced to go to the market.

These increased costs, occurring over a relatively short period of time, have brought a heavy financial burden to the

industry. One major company was forced to omit its common stock dividend, others could not issue securities because their interest coverage had fallen below the required level, and practically all companies were forced to curtail construction plans.

A moment ago I made the statement that the industry has encountered difficult problems in raising the capital necessary to finance the power plants and associated facilities that will be required in forthcoming years to supply the demand for power. I said that the problems resulted from drastically increased costs -- the cost of fuel, the cost of new plant and the cost of capital required to finance the new facilities. I will now very briefly discuss each of these problems.

The Cost of Fuel

I direct your attention to Attachment 2 of my statement. This chart, which uses figures from the Federal Power Commission, shows the increase in cost for three types of fuel used in the generation of electric power -- oil, coal and natural gas. The chart covers the period from January, 1973 through June 1975, the latest date for which FPC data have been published. The chart shows the monthly cost of fossil fuels delivered to steam-electric plants that have a capacity of 25 megawatts or more. Note that in January, 1973 the cost of oil was about 62 cents per million Btu. In September of 1973 a dramatic upward price spiral began an accumulation of costs to about \$2.06 per million Btu in December, 1974. This increased cost, over a short period of only two years, represents an increase of 230 percent.

Now coal. In January 1973 coal was reasonably priced at about 35¢ per million Btu. It maintained this rate throughout 1973 and for the first five months of 1974 but then began a steady increase bringing the price to about 80 cents per million Btu -- an increase of 128 percent -- by June, 1975.

The cost of gas as boiler fuel increased from about 25¢ per million Btu in January 1973 to about 70¢ per million Btu in June 1975, an increase of about 180 percent. Gas, however, is becoming a lesser factor in fuel for electric generation due to its present and expected shortage in the future and the mandatory allocation plans which restrict its use as a boiler fuel.

The cost of fuel has become the major operating expense for electric utilities. Note the following tabulation:

EXPENSE OF FUEL AS PERCENTAGE OF TOTAL OPERATING EXPENSES*
(1965 - 1974)

<u>Year</u>	<u>Electric Operating Expenses</u> (-----Millions of Dollars-----)	<u>Cost of Fuel</u>	<u>Fuel as Percent of Operating Expense</u>
1965	\$ 5,382	\$ 1,985	36.8 %
1966	5,784	2,210	38.1
1967	6,147	2,343	38.1
1968	6,712	2,652	39.5
1969	7,452	2,976	39.9
1970	8,695	3,734	42.9
1971	10,155	4,646	45.8
1972	11,666	5,441	46.6
1973	13,512	6,703	49.6
1974	19,542	11,901	64.2

In 1965, fuel costs comprised about 37 percent of all operating expenses. By 1974 fuel had increased to become 64 percent of these expenses. For the 10-year period 1965 through 1974

*Source: Historical Statistics of the Electric Utility Industry. Edison Electric Institute. Publications No. 62-69, 73-34, and 75-39.

there was an increase in all operating expenses of 263 percent, including fuel. But without including fuels costs in operating expenses the increase was only 125 percent. During this same period the cost of fuel increased 500 percent.

In my opinion, had it not been for the automatic fuel adjustment clause, which partially compensated companies for drastically increased fuel prices, some electric companies would have been bankrupt.

The Handy-Whitman Index of Public Utility Construction Costs over the years is one of the most authoritative indexes published for showing trends in construction costs. Reproduced below is an extract from the latest issue of that publication showing changes in construction costs from 1968 to 1975 for four essential pieces of equipment used by electric utilities. The index includes the cost of materials, labor and equipment.

INDEX OF
CONSTRUCTION COST INCREASES

(Index includes Materials, Labor and Equipment)

1949 = 100

As of Jan. 1	Boilers	Increase per Year	Turbo- Generators	Increase per Year	Power Transformers	Increase per Year	Overhead Conductor- Transmission	Increase per Year
1967	203		147		133		160	
1968	210	3.4 %	146	(0.7) %	136	2.3 %	164	2.5 %
1969	213	1.4	152	4.1	141	3.7	153	(6.7)
1970	226	6.1	157	3.3	142	0.7	203	32.7
1971	240	6.2	170	8.3	151	6.3	203	0
1972	259	7.9	191	12.4	137	(9.3)	230	13.3
1973	270	4.2	198	3.7	141	2.9	208	(9.6)
1974	292	8.1	207	4.5	167	18.4	210	1.0
1975	372	27.4	241	16.4	219	31.1	294	40.2
Overall Increase (1967-1975)		83.3 %		63.9 %		64.7 %		63.8 %

() - Indicates decrease

Source: Handy-Whitman Index of Public Utility Construction Costs.
Whitman, Requaardt and Associates. Bulletin No. 102.
Table 19. To July 1, 1975.

I call your attention specifically to the bottom line showing the overall increase for each piece of equipment. The cost index for boilers increased 83 percent; for turbogenerators and power transformers the increase was 64 percent; and for overhead conductor for transmission lines the increase was 84 percent. Note in particular the double digit increase between January 1974 and January 1975. The cost index increase ranged from 16 percent to as much as 40 percent in just that one year.

With federal deficits increasing year after year, the government has had to go to the open market for an increasing amount of funds. This has left a smaller portion of the available funds for those industries that must also use the marketplace. The competition for the available funds has grown more intense and, as a result, interest rates have been driven steadily upwards.

In 1956, the interest rate on newly issued long-term utility bonds was 3.56 percent for Aaa (Moody's rating) rated utilities. By 1975 the rate had increased to 9.13 percent, an increase of 156 percent for those utilities that had managed to retain their triple-A rating. Many electric companies today fall in the single-A category and the dramatic increase in the cost of money applies also to utilities having that rating. In 1956 the interest rate on newly issued long-term bonds for utilities with single-A ratings was 3.97 percent; by 1966 the rate had increased to 5.76 percent and by 1975 it was up to 10.25 percent. Thus, between 1956 and 1966 there was a 45 percent increase. From 1966

through 1975 the increase was 78 percent and for the overall period (1956-1975) the increase was 158 percent.*

Result of the Problem

It is not just the electric utilities that have been hard hit by these high increases in costs -- all industries have experienced the same increases. But, as I pointed out earlier, most industries are able to pass along the increased costs to their customers as they are incurred. For the regulated sector of the economy this is not possible. In addition, we must commit funds over a long period of time without realizing a return on our capital investment.

Coal-fired steam electric plants were constructed in 2 to 3 years during the 1950's. Today it takes 1-1/2 to 2 times that long. Nuclear construction is even more illustrative. It takes more than 10 years to license and construct a nuclear plant. The costs of these plants are in the hundreds of millions of dollars -- all of which must be financed during the construction period. It speaks ill of our political system here in the United States that mandates 10 years or more to build a nuclear plant while in foreign countries that same plant can be on the line in 5 or 6 years. As a result, our revenues have declined and our financial position has deteriorated.

* Derived from Moody's Public Utility Manual.

Yet the situation in which electric companies find themselves has resulted from factors beyond the control of the management of the companies.

Situation Today

I do not want to leave you with the impression that everything in our business is negative. Conditions improved somewhat in 1975 and we believe that in 1976 our financial condition will continue to improve. An analysis of 75 major electric utility systems showed that market price as a percent of book value rose from 66 percent at the end of 1974 to 84 percent at the close of 1974. This is an encouraging indication. Another sign of progress is that the recent upswing in the market has also included electric utility stocks. Standard & Poor's averages showed that electric utility stock prices were up almost 39 percent at the end of 1975 over year-end 1974.

We have a long way to go to regain our financial health and to be able to pick up our delayed construction schedule to insure that this nation has the energy that it needs for its future growth.

To do this we need the help and the cooperation of the Congress, reasonable environmental regulations, assistance from federal and state regulatory agencies in permitting needed rate increases, reducing regulatory lag, and providing the climate that will enable us to supply the required amounts of electric energy.

COMMENTS ON H.R. 12461

I believe, and I think you also do, that during this period of emergence from recession, the Congress should provide constructive actions. Actions that will help the country to maintain the momentum now underway. Actions that will aid not only the electric utilities but also the consumers. I do not believe that enactment of H.R. 12461 would support these objectives.

I do not propose to comment on all the sections of this bill because other witnesses who have or will appear before you will provide detailed comments. However, I wish to comment on two sections in particular because of their direct impact on utility financing.

Section 306 of H.R. 12461 would prohibit the Federal Power Commission from including any portion of construction work in progress in the rate base. A somewhat modified provision exists in Sec. 203(c)(1)(A) which directs that a state regulatory commission "may" include not more than 66-2/3 percent of CWIP in the rate base, providing certain very stringent and highly questionable conditions are met by the state regulatory agencies. If these provisions were enacted into law it would require us to go to the market for more and more funds, make more difficult our ability to finance and increase the cost of energy to our consumers.

To illustrate this very briefly, I refer to Attachment 3 of my statement. These figures trace the expenditures, by years, on a nuclear construction project involving four units of 900 megawatts each, all to be constructed over a period of 18 years. It shows the increment of the construction costs that represent interest on the construction project during the construction

period. In this illustration, approximately 26 percent of the total cost is represented by interest during construction. For example, in the eleventh year of the project, \$487 million will have been borrowed in order to pay the interest on the funds invested during those eleven years. (AFUDC column, the total of years 1 through 11.) In that year alone, the capital requirements for the payment of interest on funds invested during those eleven years will be \$122 million.

The major point I wish to make is shown in the totals. If CWIP is included in the rate base the total investment in the four-unit nuclear project is \$2,716 million. If CWIP is not included in the rate base the total investment -- hence the cost -- amounts to \$3,666.8 million. The difference -- \$950.8 million -- must be paid ultimately by the company's customers.

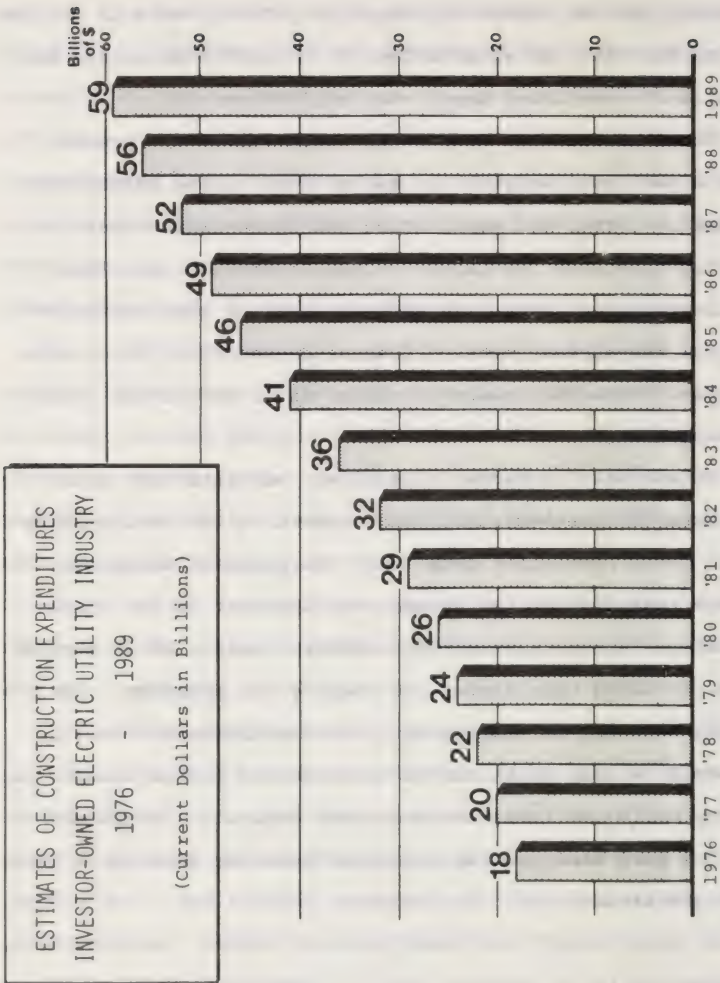
Illustrations for construction of hydroelectric projects and coal-fired plants would show the same overall results, differing only in degree.

It is obvious that if companies continue to have difficulties in securing financing, nuclear projects are the most likely candidates for cancellation because the estimated time of construction so severely exacerbates the accumulated interest to be capitalized. And nuclear projects are taking the brunt of recent cancellations. Edison Electric Institute figures show that between April 1, 1974 and October 1, 1975, a total of 181,000 megawatts of capacity have been delayed or removed from construction schedules.

Of this total, 125,000 megawatts, about 70 percent, were in nuclear units. Consider that the alternative is an almost impossible supply of coal and a continued dependence on foreign oil.

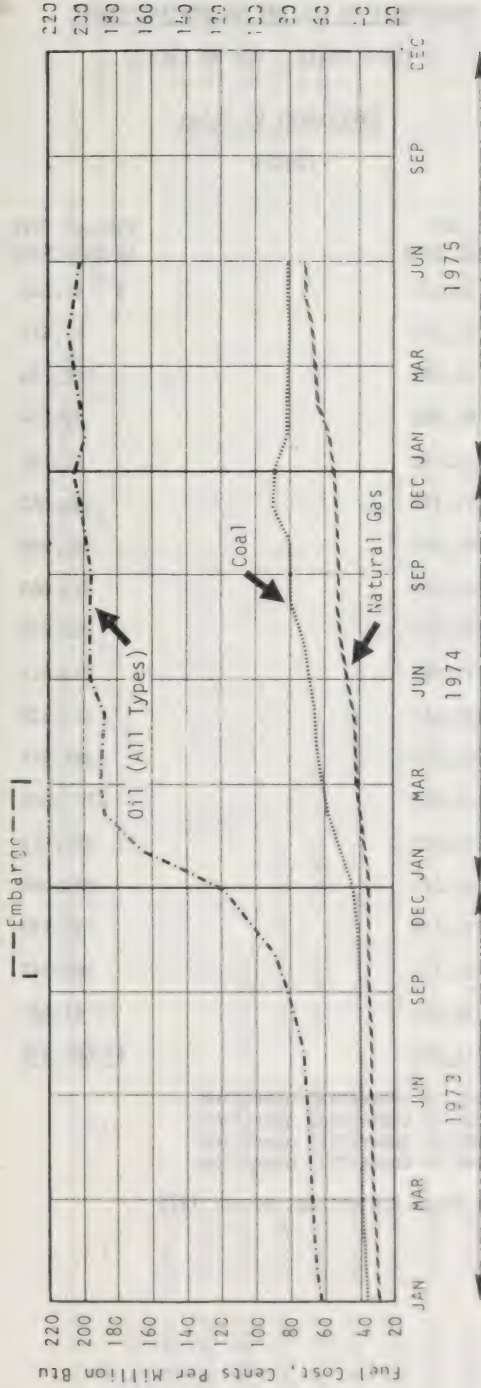
Other sections of H.R. 12461 would change our present regulatory structure, restrict the use of fuel clause adjustments, impose lifeline rates, add duplicative and unnecessary reporting requirements, encourage regulatory paralysis through unlimited consumer intervention, establish another layer of regional planning, enlarge the already swollen federal bureaucracy, force electric companies to become common carriers, and restrict the filing of rate changes.

I have seen no facts, no studies, no statistics from this committee or elsewhere that lend support to the desirability of enacting these provisions into law. The proposal being considered here today is not the answer, nor any part of the answer, to the problems facing the electric industry today. If it should become law, it could only hinder and magnify our problems. If I were seeking some way to assure that the investor-owned electric industry would be made unattractive to investors and to assure that the industry could not raise the necessary capital, I could not conceive of a more debilitating technique than the passage of this bill as it now stands.



Source: 1976-1979 Edison Electric Institute (For these years it is estimated 60% of total funds must be obtained on the open market); 1980-1989 Derived from the National Power Survey Technical Advisory Committee on Finance Report. December 1974.

MONTHLY COST OF FOSSIL FUELS DELIVERED TO U. S.
STEAM-ELECTRIC UTILITY PLANTS, 25 MW OR GREATER



The monthly cost is given as a point for the month indicated.
The lines merely connect sets of points to identify the year.

Source: Derived from Federal Power Commission News Release
December 30, 1975, No. 22029, Page 20

INVESTMENT IN NUCLEAR GENERATING PLANT

(Four Units - 900 MW Each)

INVESTMENT BY YEARS

(\$000)

<u>End of Year</u>	<u>With CWIP In Rate Base</u>	<u>Without CWIP In Rate Base</u>	<u>AFUDC</u>
1	\$ 39,122	\$ 41,262	\$ 2,140
2	82,514	87,627	5,113
3	94,503	106,749	12,246
4	59,285	79,354	20,069
5	68,556	92,169	23,613
6	111,147	142,662	31,515
7	142,057	182,986	40,929
8	256,207	313,063	56,856
9	213,275	289,070	75,795
10	313,899	410,621	96,722
11	315,631	437,538	121,907
12(1)	293,151	384,954	91,803
13	185,063	277,265	92,202
14(2)	220,020	299,551	79,531
15	141,227	225,092	83,865
16(3)	95,670	151,190	55,520
17	56,123	104,243	48,120
18(4)	<u>28,546</u>	<u>41,422</u>	<u>12,876</u>
	<u>\$2,715,996</u>	<u>\$3,666,818</u>	<u>\$950,822</u>

(1) Unit No. 1 placed in commercial operation.

(2) Unit No. 2 placed in commercial operation.

(3) Unit No. 3 placed in commercial operation.

(4) Unit No. 4 placed in commercial operation.

Computed by Carolina Power & Light Co. March, 1976

PHILADELPHIA ELECTRIC CO. EXAMPLE

EFFECT OF CONTINUING CONSTRUCTION PROGRAM

Year	1	2	3	4	5	6	7	8	9	10	11	Annual Total
0	\$2,067,312											\$2,067,312
1	(216,865)	\$2,067,312										1,850,447
2	(211,933)	(216,865)	\$2,067,312									1,638,514
3	(207,002)	(211,933)	(216,865)	\$2,067,312								1,431,512
4	(202,070)	(207,002)	(211,933)	(216,865)	\$2,067,312							1,229,442
5	(197,137)	(202,070)	(207,002)	(211,933)	(216,865)	\$2,067,312						1,032,305
6	(192,207)	(197,137)	(202,070)	(207,002)	(211,933)	(216,865)	\$2,067,312					840,098
7	(187,274)	(192,207)	(197,137)	(202,070)	(207,002)	(211,933)	(216,865)	\$2,067,312				652,824
8	(182,341)	(187,274)	(192,207)	(197,137)	(202,070)	(207,002)	(211,933)	(216,865)	\$2,067,312			470,483
9	(177,411)	(182,341)	(187,274)	(192,207)	(197,137)	(202,070)	(207,002)	(211,933)	(216,865)	\$2,067,312		293,072
10	(172,478)	(177,411)	(182,341)	(187,274)	(192,207)	(197,137)	(202,070)	(207,002)	(211,933)	(216,865)	\$2,067,312	120,594
PRESENT WORTH, at 9%, results in increased revenue requirements of:												\$4,705,415

All figures are from Column (11) of Philadelphia Electric Co. Example.

Assumptions:	Explanation of columns:
Cost of money, $r = 9.02\%$	Col. 1 = \$1,000,000 + 30 years'
Interest on Debt, $i = 7.00\%$	Col. 2 = Col. 1 $\times (1 - .51628)$
	Col. 3 = the cumulative total of Col. 1
Income Tax Rate, $T = 51.628\%$	Col. 4 = Col. 2 $\times 92$
	Col. 5 = Col. 4 $\times 92$
	Col. 6 = Col. 5 $\times 92$
	Col. 7 = Col. 6 $\times 92$
	Col. 8 = Col. 7 $\times (1 - .51628)$
Debt Ratio, $b = .912$	Col. 9 = Col. 8 $\times .912$
	Col. 10 = Col. 9 $\times (1 - .51628)$
	Col. 11 = Col. 10 $\times 8$
	Col. 12 = Col. 11 $\times 8$
	Col. 13 = Col. 12 $\times 8$
	Col. 14 = Col. 13 $\times 8$
	Col. 15 = Col. 14 $\times 8$
	Col. 16 = Col. 15 $\times 8$
	Col. 17 = Col. 16 $\times 8$
	Col. 18 = Col. 17 $\times 8$
	Col. 19 = Col. 18 $\times 8$
	Col. 20 = Col. 19 $\times 8$
	Col. 21 = Col. 20 $\times 8$
	Col. 22 = Col. 21 $\times 8$
	Col. 23 = Col. 22 $\times 8$
	Col. 24 = Col. 23 $\times 8$
	Col. 25 = Col. 24 $\times 8$
	Col. 26 = Col. 25 $\times 8$
	Col. 27 = Col. 26 $\times 8$
	Col. 28 = Col. 27 $\times 8$
	Col. 29 = Col. 28 $\times 8$
	Col. 30 = Col. 29 $\times 8$
	Col. 31 = Col. 30 $\times 8$
	Col. 32 = Col. 31 $\times 8$
	Col. 33 = Col. 32 $\times 8$
	Col. 34 = Col. 33 $\times 8$
	Col. 35 = Col. 34 $\times 8$
	Col. 36 = Col. 35 $\times 8$
	Col. 37 = Col. 36 $\times 8$
	Col. 38 = Col. 37 $\times 8$
	Col. 39 = Col. 38 $\times 8$
	Col. 40 = Col. 39 $\times 8$
	Col. 41 = Col. 40 $\times 8$
	Col. 42 = Col. 41 $\times 8$
	Col. 43 = Col. 42 $\times 8$
	Col. 44 = Col. 43 $\times 8$
	Col. 45 = Col. 44 $\times 8$
	Col. 46 = Col. 45 $\times 8$
	Col. 47 = Col. 46 $\times 8$
	Col. 48 = Col. 47 $\times 8$
	Col. 49 = Col. 48 $\times 8$
	Col. 50 = Col. 49 $\times 8$
	Col. 51 = Col. 50 $\times 8$
	Col. 52 = Col. 51 $\times 8$
	Col. 53 = Col. 52 $\times 8$
	Col. 54 = Col. 53 $\times 8$
	Col. 55 = Col. 54 $\times 8$
	Col. 56 = Col. 55 $\times 8$
	Col. 57 = Col. 56 $\times 8$
	Col. 58 = Col. 57 $\times 8$
	Col. 59 = Col. 58 $\times 8$
	Col. 60 = Col. 59 $\times 8$
	Col. 61 = Col. 60 $\times 8$
	Col. 62 = Col. 61 $\times 8$
	Col. 63 = Col. 62 $\times 8$
	Col. 64 = Col. 63 $\times 8$
	Col. 65 = Col. 64 $\times 8$
	Col. 66 = Col. 65 $\times 8$
	Col. 67 = Col. 66 $\times 8$
	Col. 68 = Col. 67 $\times 8$
	Col. 69 = Col. 68 $\times 8$
	Col. 70 = Col. 69 $\times 8$
	Col. 71 = Col. 70 $\times 8$
	Col. 72 = Col. 71 $\times 8$
	Col. 73 = Col. 72 $\times 8$
	Col. 74 = Col. 73 $\times 8$
	Col. 75 = Col. 74 $\times 8$
	Col. 76 = Col. 75 $\times 8$
	Col. 77 = Col. 76 $\times 8$
	Col. 78 = Col. 77 $\times 8$
	Col. 79 = Col. 78 $\times 8$
	Col. 80 = Col. 79 $\times 8$
	Col. 81 = Col. 80 $\times 8$
	Col. 82 = Col. 81 $\times 8$
	Col. 83 = Col. 82 $\times 8$
	Col. 84 = Col. 83 $\times 8$
	Col. 85 = Col. 84 $\times 8$
	Col. 86 = Col. 85 $\times 8$
	Col. 87 = Col. 86 $\times 8$
	Col. 88 = Col. 87 $\times 8$
	Col. 89 = Col. 88 $\times 8$
	Col. 90 = Col. 89 $\times 8$
	Col. 91 = Col. 90 $\times 8$
	Col. 92 = Col. 91 $\times 8$
	Col. 93 = Col. 92 $\times 8$
	Col. 94 = Col. 93 $\times 8$
	Col. 95 = Col. 94 $\times 8$
	Col. 96 = Col. 95 $\times 8$
	Col. 97 = Col. 96 $\times 8$
	Col. 98 = Col. 97 $\times 8$
	Col. 99 = Col. 98 $\times 8$
	Col. 100 = Col. 99 $\times 8$
	Col. 101 = Col. 100 $\times 8$
	Col. 102 = Col. 101 $\times 8$
	Col. 103 = Col. 102 $\times 8$
	Col. 104 = Col. 103 $\times 8$
	Col. 105 = Col. 104 $\times 8$
	Col. 106 = Col. 105 $\times 8$
	Col. 107 = Col. 106 $\times 8$
	Col. 108 = Col. 107 $\times 8$
	Col. 109 = Col. 108 $\times 8$
	Col. 110 = Col. 109 $\times 8$
	Col. 111 = Col. 110 $\times 8$
	Col. 112 = Col. 111 $\times 8$
	Col. 113 = Col. 112 $\times 8$
	Col. 114 = Col. 113 $\times 8$
	Col. 115 = Col. 114 $\times 8$
	Col. 116 = Col. 115 $\times 8$
	Col. 117 = Col. 116 $\times 8$
	Col. 118 = Col. 117 $\times 8$
	Col. 119 = Col. 118 $\times 8$
	Col. 120 = Col. 119 $\times 8$
	Col. 121 = Col. 120 $\times 8$
	Col. 122 = Col. 121 $\times 8$
	Col. 123 = Col. 122 $\times 8$
	Col. 124 = Col. 123 $\times 8$
	Col. 125 = Col. 124 $\times 8$
	Col. 126 = Col. 125 $\times 8$
	Col. 127 = Col. 126 $\times 8$
	Col. 128 = Col. 127 $\times 8$
	Col. 129 = Col. 128 $\times 8$
	Col. 130 = Col. 129 $\times 8$
	Col. 131 = Col. 130 $\times 8$
	Col. 132 = Col. 131 $\times 8$
	Col. 133 = Col. 132 $\times 8$
	Col. 134 = Col. 133 $\times 8$
	Col. 135 = Col. 134 $\times 8$
	Col. 136 = Col. 135 $\times 8$
	Col. 137 = Col. 136 $\times 8$
	Col. 138 = Col. 137 $\times 8$
	Col. 139 = Col. 138 $\times 8$
	Col. 140 = Col. 139 $\times 8$
	Col. 141 = Col. 140 $\times 8$
	Col. 142 = Col. 141 $\times 8$
	Col. 143 = Col. 142 $\times 8$
	Col. 144 = Col. 143 $\times 8$
	Col. 145 = Col. 144 $\times 8$
	Col. 146 = Col. 145 $\times 8$
	Col. 147 = Col. 146 $\times 8$
	Col. 148 = Col. 147 $\times 8$
	Col. 149 = Col. 148 $\times 8$
	Col. 150 = Col. 149 $\times 8$
	Col. 151 = Col. 150 $\times 8$
	Col. 152 = Col. 151 $\times 8$
	Col. 153 = Col. 152 $\times 8$
	Col. 154 = Col. 153 $\times 8$
	Col. 155 = Col. 154 $\times 8$
	Col. 156 = Col. 155 $\times 8$
	Col. 157 = Col. 156 $\times 8$
	Col. 158 = Col. 157 $\times 8$
	Col. 159 = Col. 158 $\times 8$
	Col. 160 = Col. 159 $\times 8$
	Col. 161 = Col. 160 $\times 8$
	Col. 162 = Col. 161 $\times 8$
	Col. 163 = Col. 162 $\times 8$
	Col. 164 = Col. 163 $\times 8$
	Col. 165 = Col. 164 $\times 8$
	Col. 166 = Col. 165 $\times 8$
	Col. 167 = Col. 166 $\times 8$
	Col. 168 = Col. 167 $\times 8$
	Col. 169 = Col. 168 $\times 8$
	Col. 170 = Col. 169 $\times 8$
	Col. 171 = Col. 170 $\times 8$
	Col. 172 = Col. 171 $\times 8$
	Col. 173 = Col. 172 $\times 8$
	Col. 174 = Col. 173 $\times 8$
	Col. 175 = Col. 174 $\times 8$
	Col. 176 = Col. 175 $\times 8$
	Col. 177 = Col. 176 $\times 8$
	Col. 178 = Col. 177 $\times 8$
	Col. 179 = Col. 178 $\times 8$
	Col. 180 = Col. 179 $\times 8$
	Col. 181 = Col. 180 $\times 8$
	Col. 182 = Col. 181 $\times 8$
	Col. 183 = Col. 182 $\times 8$
	Col. 184 = Col. 183 $\times 8$
	Col. 185 = Col. 184 $\times 8$
	Col. 186 = Col. 185 $\times 8$
	Col. 187 = Col. 186 $\times 8$
	Col. 188 = Col. 187 $\times 8$
	Col. 189 = Col. 188 $\times 8$
	Col. 190 = Col. 189 $\times 8$
	Col. 191 = Col. 190 $\times 8$
	Col. 192 = Col. 191 $\times 8$
	Col. 193 = Col. 192 $\times 8$
	Col. 194 = Col. 193 $\times 8$
	Col. 195 = Col. 194 $\times 8$
	Col. 196 = Col. 195 $\times 8$
	Col. 197 = Col. 196 $\times 8$
	Col. 198 = Col. 197 $\times 8$
	Col. 199 = Col. 198 $\times 8$
	Col. 200 = Col. 199 $\times 8$
	Col. 201 = Col. 200 $\times 8$
	Col. 202 = Col. 201 $\times 8$
	Col. 203 = Col. 202 $\times 8$
	Col. 204 = Col. 203 $\times 8$
	Col. 205 = Col. 204 $\times 8$
	Col. 206 = Col. 205 $\times 8$
	Col. 207 = Col. 206 $\times 8$
	Col. 208 = Col. 207 $\times 8$
	Col. 209 = Col. 208 $\times 8$
	Col. 210 = Col. 209 $\times 8$
	Col. 211 = Col. 210 $\times 8$
	Col. 212 = Col. 211 $\times 8$
	Col. 213 = Col. 212 $\times 8$
	Col. 214 = Col. 213 $\times 8$
	Col. 215 = Col. 214 $\times 8$
	Col. 216 = Col. 215 $\times 8$
	Col. 217 = Col. 216 $\times 8$
	Col. 218 = Col. 217 $\times 8$
	Col. 219 = Col. 218 $\times 8$
	Col. 220 = Col. 219 $\times 8$
	Col. 221 = Col. 220 $\times 8$
	Col. 222 = Col. 221 $\times 8$
	Col. 223 = Col. 222 $\times 8$
	Col. 224 = Col. 223 $\times 8$
	Col. 225 = Col. 224 $\times 8$
	Col. 226 = Col. 225 $\times 8$
	Col. 227 = Col. 226 $\times 8$
	Col. 228 = Col. 227 $\times 8$
	Col. 229 = Col. 228 $\times 8$
	Col. 230 = Col. 229 $\times 8$
	Col. 231 = Col. 230 $\times 8$
	Col. 232 = Col. 231 $\times 8$
	Col. 233 = Col. 232 $\times 8$
	Col. 234 = Col. 233 $\times 8$
	Col. 235 = Col. 234 $\times 8$
	Col. 236 = Col. 235 $\times 8$
	Col. 237 = Col. 236 $\times 8$
	Col. 238 = Col. 237 $\times 8$
	Col. 239 = Col. 238 $\times 8$
	Col. 240 = Col. 239 $\times 8$
	Col. 241 = Col. 240 $\times 8$
	Col. 242 = Col. 241 $\times 8$
	Col. 243 = Col. 242 $\times 8$
	Col. 244 = Col. 243 $\times 8$
	Col. 245 = Col. 244 $\times 8$
	Col. 246 = Col. 245 $\times 8$
	Col. 247 = Col. 246 $\times 8$
	Col. 248 = Col. 247 $\times 8$
	Col. 249 = Col. 248 $\times 8$
	Col. 250 = Col. 249 $\times 8$
	Col. 251 = Col. 250 $\times 8$
	Col. 252 = Col. 251 $\times 8$
	Col. 253 = Col. 252 $\times 8$
	Col. 254 = Col. 253 $\times 8$
	Col. 255 = Col. 254 $\times 8$
	Col. 256 = Col. 255 $\times 8$
	Col. 257 = Col. 256 $\times 8$
	Col. 258 = Col. 257 $\times 8$
	Col. 259 = Col. 258 $\times 8$
	Col. 260 = Col. 259 $\times 8$
	Col. 261 = Col. 260 $\times 8$
	Col. 262 = Col. 261 $\times 8$
	Col. 263 = Col. 262 $\times 8$
	Col. 264 = Col. 263 $\times 8$
	Col. 265 = Col. 264 $\times 8$
	Col. 266 = Col. 265 $\times 8$
	Col. 267 = Col. 266 $\times 8$
	Col. 268 = Col. 267 $\times 8$
	Col. 269 = Col. 268 $\times 8$
	Col. 270 = Col. 269 $\times 8$
	Col. 271 = Col. 270 $\times 8$
	Col. 272 = Col. 271 $\times 8$
	Col. 273 = Col. 272 $\times 8$
	Col. 274 = Col. 273 $\times 8$
	Col. 275 = Col. 274 $\times 8$
	Col. 276 = Col. 275 $\times 8$
	Col. 277 = Col. 276 $\times 8$
	Col. 278 = Col. 277 $\times 8$
	Col. 279 = Col. 278 $\times 8$
	Col. 280 = Col. 279 $\times 8$
	Col. 281 = Col. 280 $\times 8$
	Col. 282 = Col. 281 $\times 8$
	Col. 283 = Col. 282 $\times 8$
	Col. 284 = Col. 283 $\times 8$
	Col. 285 = Col. 284 $\times 8$
	Col. 286 = Col. 285 $\times 8$
	Col. 287 = Col. 286 $\times 8$
	Col. 288 = Col. 287 $\times 8$
	Col. 289 = Col. 288 $\times 8$
	Col. 290 = Col. 289 $\times 8$
	Col. 291 = Col. 290 $\times 8$
	Col. 292 = Col. 291 $\times 8$
	Col. 293 = Col. 292 $\times 8$
	Col. 294 = Col. 293 $\times 8$
	Col. 295 = Col. 294 $\times 8$
	Col. 296 = Col. 295 $\times 8$
	Col. 297 = Col. 296 $\times 8$
	Col. 298 = Col. 297 $\times 8$
	Col. 299 = Col. 298 $\times 8$
	Col. 300 = Col. 299 $\times 8$
	Col. 301 = Col. 300 $\times 8$
	Col. 302 = Col. 301 $\times 8$
	Col. 303 = Col. 302 $\times 8$
	Col. 304 = Col. 303 $\times 8$
	Col. 305 = Col. 304 $\times 8$
	Col. 306 = Col. 305 $\times 8$
	Col. 307 = Col. 306 $\times 8$
	Col. 308 = Col. 307 $\times 8$
	Col. 309 = Col. 308 $\times 8$
	Col. 310 = Col. 309 $\times 8$
	Col. 311 = Col. 310 $\times 8$
	Col. 312 = Col. 311 $\times 8$
	Col. 313 = Col. 312 $\times 8$
	Col. 314 = Col. 313 $\times 8$
	Col. 315 = Col. 314 $\times 8$
	Col. 316 = Col. 315 $\times 8$
	Col. 317 = Col. 316 $\times 8$
	Col. 318 = Col. 317 $\times 8$
	Col. 319 = Col. 318 $\times 8$
	Col. 320 = Col. 319 $\times 8$
	Col. 321 = Col. 320 $\times 8$
	Col. 322 = Col. 321 $\times 8$
	Col. 323 = Col. 322 $\times 8$
	Col. 324 = Col. 323 $\times 8$
	Col. 325 = Col. 324 $\times 8$
	Col. 326 = Col. 325 $\times 8$
	Col. 327 = Col. 326 $\times 8$
	Col. 328 = Col. 327 $\times 8$
	Col. 329 = Col. 328 $\times 8$
	Col. 330 = Col. 329 $\times 8$
	Col. 331 = Col. 330 $\times 8$
	Col. 332 = Col. 331 $\times 8$
	Col. 333 = Col. 332 $\times 8$
	Col. 334 = Col. 333 $\times 8$
	Col. 335 = Col. 334 $\times 8$
	Col. 336 = Col. 335 $\times 8$
	Col. 337 = Col. 336 $\times 8$
	Col. 338 = Col. 337 $\times 8$
	Col. 339 = Col. 338 $\times 8$
	Col. 340 = Col. 339 $\times 8$
	Col. 341 = Col. 340 $\times 8$
	Col. 342 = Col. 341 $\times 8$
	Col. 343 = Col. 342 $\times 8$
	Col. 344 = Col. 343 $\times 8$
	Col. 345 = Col. 344 $\times 8$
	Col. 346 = Col. 345 $\times 8$
	Col. 347 = Col. 346 $\times 8$
	Col. 348 = Col. 347 $\times 8$
	Col. 349 = Col. 348 $\times 8$
	Col. 350 = Col. 349 $\times 8$
	Col. 351 = Col. 350 $\times 8$
	Col. 352 = Col. 351 $\times 8$
	Col. 353 = Col. 352 $\times 8$
	Col. 354 = Col. 353 $\times 8$
	Col. 355 = Col. 354 $\times 8$
	Col. 356 = Col. 355 $\times 8$
	Col. 357 = Col. 356 $\times 8$
	Col. 358 = Col. 357 $\times 8$
	Col. 359 = Col. 358 $\times 8$
	Col. 360 = Col. 359 $\times 8$
	Col. 361 = Col. 360 $\times 8$
	Col. 362 = Col. 361 $\times 8$
	Col. 363 = Col. 362 $\times 8$
	Col. 364 = Col. 363 $\times 8$
	Col. 365 = Col. 364 $\times 8$
	Col. 366 = Col. 365 $\times 8$
	Col. 367 = Col. 366 $\times 8$

a) Payment terms to be settled after 30 days. During the period of construction and to add these suspended AOC charges to the current assets in order to settle them. The example shows some effects of depositing 1,000,000 of such AOC charges over a 30-year period in 1977, plus the associated requirements for return, plus income taxes on the equity position of return, less tax savings, and the net required amount of each year. 125,000,000 of average AOC would generate 1,000,000 AOC at 7.25%.

b) Proposed terms to be settled after 30 days. During the period of construction, pending in a return requirement during that period, plus associated income taxes. In this case, no AOC would be charged to the capital accounts.

Testimony of John F. Childs, Vice President of Kidder, Peabody & Co. Inc.,
10 Hanover Square, New York City 10005. Before the House Committee on Interstate
and Foreign Commerce Subcommittee on Energy and Power. Regarding H.R. 12461, the
"Electric Utility Rate Reform and Regulatory Improvement Act." April 8, 1976.

My Background is briefly as follows:

I spent about 30 years with Irving Trust Company a large New York commercial
bank, I retired in 1974 as a senior vice president.

I was in charge of the public utility department which conducted regular
commercial banking business with the utility industry and provided the industry
with various financial services. Among other things, I ran seminars for utility
executives and commissioners, and I advised utilities on all phases of corporate
finance.

I was also in charge of the corporate financial consulting department which
provided financial advice on all phases of finance for industrial companies and
banks.

I was a member of many utility industry committees such as the Federal Power
Commission, Technical advisory Committee on Finance on the Financial outlook for
the Electric Power Industry; and The State of New Jersey Power Authority Study Group
concerning a Power Authority and other forms of State Involvement in Financing Electric
Generating Facilities.

I am now a Vice President of Kidder, Peabody & Co. Incorporated, a New York
investment banking firm. I work on financial advice for all types of companies
including utilities.

I have published four books on corporate finance. My latest one was just
published by Prentice-Hall. The Encyclopedia of Long-Term Financing and Capital
Management.

Direction of my Testimony

H.R. 12461 starts off with the statement "the continued generation and transmission of an adequate supply of electricity....."

My remarks will discuss the effect the bill may have with regard to the matter of financing the capital necessary to provide an adequate supply.

What Supply?

The matter of an adequate supply, does not refer to today. The plants are already in existence which provide today's electricity.

The matter of an adequate supply refers to the next 5 or 10 years because it takes that long to build new equipment necessary to provide a supply.

Unfortunately, consumers are so accustomed to turning on a switch and getting electricity that they may not appreciate what may happen 5 or 10 years from now if there is an inadequate supply. Such a situation might mean:

1. Residential customers being rationed.
2. Industrial companies being unable to meet the demand for goods with the consequences of inflation.
3. Incurable unemployment.

For these reasons, I believe that the matter of power supply is of overwhelming importance.

Capital Requirements

One of the major factors which will determine whether the power will be available is whether capital will be made available to build the plants. The amount of capital needed, of course, will depend on the amount of power required. However, whether you expect a large growth in demand for electricity or even a small growth, there will be a gigantic need for capital to supply the power. Other witnesses have outlined the billions of dollars required. This can be translated in terms of financing by saying that it appears that most electric utilities may have to sell an issue of bonds, an issue of preferred and an issue of common each year for as far as we can see ahead. That is a very heavy financing burden.

Circumstances Under Which Capital Has to be Raised

Raising large amounts of capital under favorable circumstances is not easy and it appears that the 1970's may represent an unfavorable period in which to raise capital:

Interest rates are high.
 The stock market is not eager for new issues.
 The electric utility industry is not in good repute with investors.

To explain the picture, I must point out that there are two different types of circumstances as regards investors' interest in utility securities.

1. One type of circumstance exists when earnings are self-generated.

By this I mean that through economies, management can generate earnings without having to rely on rate increases.

This was the situation from the end of World War II until the early 1970's.

In referring to this period we should not overlook what the industry did for the consumers. The consumer price index rose substantially in the 25 year period from 1945 to 1970.

Electric rates, on the other hand, showed either no increase or only a slight increase. Consumers may forget how they benefited from this achievement.

2. The other type of circumstance exists when rate increases are needed. Investors' do not consider utilities attractive in such a period. This is the situation today. Interest rates have sky rocketed. Operating and construction costs have run wild. As a consequence, managements have had to go in for rate increases. They would have been derelict in their duty if they did not do so.

I might add that consumers seem to feel that managements are taking the easy way out in solving their problems by seeking rate increases. Nothing could be further from the truth. It is far more difficult for management to get a rate increase than to produce earnings through economies if it is possible to do so.

In spite of management's efforts to get rate increases, investors have become disenchanted with the industry due to what is known as regulatory lag.

Regulatory Lag

Regulatory lag is partly due to the nature of regulation and partly to commissions failing to act promptly.

In order to seek a rate increase a company first has to experience inadequate earnings. Then it may have to take up to 11 months in order to get an increase, and when an increase is granted it is too little, because the amount of the increase may have been based on historical income and expenses and with inflation, expenses will already have advanced by the time the decision is made. Thus, increases have been too late and too little.

As a result of this lag, a company will not earn what a commission has decided to be a fair return. Because of this situation the financial standing of the industry has deteriorated very badly.

The protection of bond interest, as measured by the number of times earnings cover interest charges, fell to a seriously low figure for many companies.

The deterioration in credit of the industry was evidenced by the dramatic reduction in bond ratings, something no one would have even dreamed about in the 1960's.

Common stock market prices fall well below book value, and, in order to provide capital, the industry was forced to sell common stocks at disastrously low prices, with dividend yields of 8% or 9%.

Institutional investors lost interest in utility stocks, and in fact many dumped their holdings of utility stocks on the market.

The situation reached a climax when Con Ed cut its dividend. There has been some improvement since then but the situation is still very serious and it is difficult at this point to see the light at the end of the tunnel.

The Federal Power Commission recognized the problem of regulatory lag in a study entitled "A Study of Electric Utility Industry," September, 1974. The suggestions from pages 24 and 30 included:

1. All plant under construction in rate base.
2. Use of Future Test periods.
3. Use of attrition allowances.
4. Encourage a more widespread use of fuel adjustment clauses.

Some state Commissions have used some of these approaches.

Bill H.R. 12461 does not seem to have given much weight to the problem of raising capital for the industry and the principal reasons why the problem exists. In two parts for example, the bill recommends limitations with regard to:

1. Fuel adjustment clause.
2. The use of capital expenditures in rate base.

This is not to say that the bill does not cover many points which should be achieved.

However, I believe the industry and local regulation is very well aware of all of these points and are trying to achieve these points in an orderly fashion.

Furthermore, I believe the bill, in general, would represent a blanket over local regulation and would only add to the problem of regulatory lag.

The lack of a Viable Alternative to Power Supply

One of the reasons I believe the capital raising problem for the industry is such a serious one is because there seems to be no alternative for an adequate power supply.

In the past, governmental bodies have taken over private companies and been successful in raising capital. However, when these take overs occurred the electric utility industry was a viable economic business. I do not believe that we can look at this history as an example as to what might happen if the electric utility

industry failed today. In such an event, the utility companies would be in financial trouble. And if some governmental division had to step in, there would have to be a rescue operation into which government credit would have to be pumped. I believe, the financial problems which divisions of government face today, raise doubt as to whether they could stand such an added burden.

Hope for the Future

It is conceivable that circumstances will change so that capital raising will not be the problem that it now presents; if interest rates decrease substantially, if inflation is reduced to a low rate, if adequate sources of fuel become available, and if the stock market improves.

Fairness to Investors

In my discussion, I have only talked about the necessity of attracting capital. There is also a matter of fairness to investors who have supplied and hopefully will supply the necessary capital.

A very large segment of the savings of our nation is invested in the utility industry. As I have pointed out, institutions have largely lost interest in the industry. Now, it is the individual investors who are taking their money out of savings accounts and buying utility securities in the hopes that the industry will get straightened out.

The capital providers who have put up the capital should be treated fairly just as the consumers and labor should be treated fairly.

There have been very large losses in utility securities, and companies are still having to sell stock below book value which further erodes past investment.

Regulatory lag is one of the principal reasons for the abuse that capital has experienced. The added regulatory lag which the bill might cause would create further unfairness to the investors.

Conclusion

In conclusion, if the electric utility industry continues to face the many problems which are making capital raising difficult, I believe it is no exaggeration to say that this bill may be the final nail in the industry's coffin.

The first of these is the fact that the
the second is the fact that the
the third is the fact that the

The fourth is the fact that the
the fifth is the fact that the
the sixth is the fact that the

The seventh is the fact that the
the eighth is the fact that the
the ninth is the fact that the

The tenth is the fact that the
the eleventh is the fact that the
the twelfth is the fact that the

The thirteenth is the fact that the
the fourteenth is the fact that the
the fifteenth is the fact that the

The sixteenth is the fact that the
the seventeenth is the fact that the
the eighteenth is the fact that the
the nineteenth is the fact that the
the twentieth is the fact that the

The twenty-first is the fact that the
the twenty-second is the fact that the
the twenty-third is the fact that the
the twenty-fourth is the fact that the
the twenty-fifth is the fact that the

The twenty-sixth is the fact that the
the twenty-seventh is the fact that the
the twenty-eighth is the fact that the
the twenty-ninth is the fact that the
the thirtieth is the fact that the

The thirty-first is the fact that the
the thirty-second is the fact that the
the thirty-third is the fact that the
the thirty-fourth is the fact that the
the thirty-fifth is the fact that the

The thirty-sixth is the fact that the
the thirty-seventh is the fact that the
the thirty-eighth is the fact that the
the thirty-ninth is the fact that the
the fortieth is the fact that the

Statement of Professor Jerome E. Hass
before the
Subcommittee on Energy and Power of the
Committee on Interstate and
Foreign Commerce
April 7, 1976

My name is Jerome E. Hass. I am Chief of the Division of Economic Studies in the Office of Economics at the Federal Power Commission and on leave from Cornell University where I hold the position of Associate Professor of Managerial Economics and Finance at the Graduate School of Business and Public Administration. I hold advanced degrees in business and economics from the Wharton School at the University of Pennsylvania and Carnegie-Mellon University. I was the principal author of the Ford Foundation's Energy Policy Project 1974 report entitled Financing the Energy Industry. I have written numerous articles for scholarly journals and have testified before various congressional committees on energy pricing and utility financial issues.

The views expressed in my testimony today are my own and do not necessarily represent those of the Federal Power Commission.

There are two objectives I would like to achieve today. First I'll try to provide some brief background on the financial condition of the electrical utility industry. Then I'll try to relate some of the elements in H.R. 12461 to the financial outlook for the electric utilities.

The electric utility industry is unique in the non-financial business sector of our economy in its dependence upon the capital markets. Not only is it far more capital intensive

than almost any other industry (see Exhibit 1), but it also pays out a larger fraction of its earnings. Hence it depends heavily upon the capital markets to finance its growth, and that dependence is magnified when its construction costs inflate.

Exhibit 2 displays the extent of the dependence on the capital markets for the electric utility industry from 1970 to the present. While the industry will account for less than 2 percent of all active corporate receipts over the seven year period 1970 through 1976, it will have issued approximately 20 percent of all new corporate long-term debt and 40 percent of all new corporate equity.

The investment community, although recently showing signs of renewed confidence, is highly sensitive to the financial condition of the industry. They are keenly aware of the poor performance of equity investments in that industry over the past seven or eight years and would undoubtedly be reluctant to make new investments in an environment of increased uncertainty.

Thus even though H.R. 12461 does not specifically deal with financing, it seems advisable to examine the proposed bill for factors that might create financial problems.

I perceive three parts of the proposal legislation having direct financial effects on the industry.

The first, and probable most important, is the constraints imposed on CWIP in the rate base in sections 203(c)(1)(A) for retail and 306 for wholesale. There is no simple rule of thumb to follow in the CWIP issue. While it can be argued that CWIP should be excluded from the rate base on inter-generational equity grounds, there is substantial evidence which indicated this

disadvantage might be offset in some cases by the lower cost of capital associated with the higher revenues and coverage ratios obtained by its inclusion. What is in the consumers best interest must be judged on a case-by-case basis. Most states proceed in that fashion; as of the end of 1974, NARUC reported 29 commissions allowed some or all of CWIP in rate base determination.

Section 203(c)(1)(A) sets a limit on CWIP in the rate base at 67% for retail rate-setting purposes while section 306 excludes it completely for wholesale power rate setting. This dual treatment is not only discriminatory, but these constraints might impinge negatively on the capital availability and capital costs for some firms in the industry. Thus it is not at all clear that such constraints should be legislated.

The constraints on automatic adjustment clauses contained in section 203(b)(2)(A) for retail and section 305 for wholesale will also have a financial impact. While the latter section is mislabeled as a "fuel" adjustment clause and the former contains a Freudian slip on line 1 of page 15 which implies that costs never fall, the financial impact of these constraints is to cause capital suppliers to bear more risk than they would have in the absence of such constraints. By not allowing the clause to be effective except beyond 5% of the original base and then allowing only 85% of the difference to be recovered automatically is more severe than the full automatic fuel cost pass-throughs currently operative in most jurisdictions. I am not necessarily opposed to these limits, but I feel obliged to point out that in the short run they may result in a higher cost of capital and higher rather than lower electricity prices.

The third element with direct financial impact is the prohibition on pendency of cumulative rate applications, Section 304. While this prohibition applies only to wholesale rates schedules filed with the FPC, and therefore does not impact to a great extent in the aggregate, it could have significant impact on some companies which receive a large fraction of their total revenue in the bulk power market. As my colleague William Lindsay testified before you on Monday, April 3, 1976, rate schedule filings with the Commission have increased dramatically in the past few years and some firms have panicked rate filings. In a period of rising costs, Section 304 could put the utility at considerable disadvantage to the extent that the Commission was slow in moving proposed rate increases to conclusion. The Commission knows that delayed rate relief only causes higher costs and second best decisions by utilities; it has recently announced procedures which will hopefully speed up the FPC decision process. It still, however, is risky business to legislate a rule that has the potential of ultimately raising electricity prices higher than they otherwise need to be with no apparent benefit other than an indirect prodding of the Commission via the pressure Section 304 might create.

There are some elements of the proposed bill that could have substantial financial implications, although more indirectly than those mentioned above. First and foremost are the marginal cost and peak responsibility pricing principles embodied in Sections 203(a)(1), 203(1)(2) and 203(a). It is not clear what the effect of peak pricing will be on the construction budgets of the industry. Load pricing will probably have some effect

on the rate of growth of peak demand and likely result in more sharply defined and shorter peaks; these changes, in turn, will mean lower total kw capacity requirements and heavier use of peaking facilities with low capital (and high energy) costs. But insofar as such pricing also will tend to fill in the troughs, it will result in a shift over time into more energy-saving but capital-intensive generation units. The overall effect could go either way with respect to the total capital needs of individual firms and the industry. On the other hand, revenues will definitely be more responsive to growth in peak demand under such pricing principles than under current practice, reducing the importance of the regulatory lag in creating financial crises, especially in inflationary periods.

I understand and am in sympathy with the desire to set minimum standards for electric utility ratemaking in order to assure that States which implement rate reform are not placed at a competitive economic disadvantage by reason of the failure of other states to implement such reform. But again there is a short and long run problem. It is a simple fact that electricity has been and will continue to be cheaper to produce and distribute in some parts of the country than in others. While this means that in the long run electricity-intensive businesses should not be located in certain areas of the country, subsidies to industry via rates below incremental cost to maintain employment and tax base may be politically optimal for some areas in the shorter run. I am therefore concerned about a national

standard based upon long run efficiency arguments that ignores short run dislocation costs which might be substantial in some cases. It may be that state regulatory commissions are not capable of performing these delicate trade-offs, but national standards totally ignore them by definition.

My final observation is that for some firms the revenue shifting created by the lifeline provisions of Section 203 (a) (3) is large and uncertain enough to make a given revenue requirement a difficult target to hit - thereby increasing investors risk.

Consider on the one hand Indianapolis Power and Light Company. Residential revenues constitute less than 35 percent of total revenues and the average annual use per residential customer is 8724 kwh (in 1975) at an average price of 2.425¢ per kwh. If an 1800 kwh per year lifeline rate */ was instituted at a price of 0.976¢ per kwh (IP&L's rate N) the revenue loss would be \$7.1 million, which is about 4 percent of total 1975 revenue. Spreading this difference over the non-lifeline portion of residential rates and commercial and industrial rates would raise these rates an average of only 4 percent, which would have little effect on consumption.

But now consider the impact of the lifeline provision on Con Ed. While residential revenues constitute about 30 percent of total revenues, the average annual use per residential customer is 3300 kwh (in 1975) at an average price of 8.66¢ per kwh. If an 1800 kwh per year lifeline rate was instituted at a price of 2.33¢ per kwh (Con Ed's energy rate to the World */ Refrigeration and lighting at 5 kwh per day. *2 low*

Trade Center), the revenue loss would be \$315 million, which is about 14 percent of Con Ed's total revenues. Spreading this over the remaining customers would increase their rates by more than 16 percent, which could have significant effects on electricity consumption that are difficult to predict.

Lifeline rates not only pose a financial instability problem, they also are an extremely ineffectual way of assisting a subset of the population with their own financial problems. Since this criticism does not bear on the financial viability of this industry, I will not go into detail here, but I have appended a brief analysis on the issue.

In summary, there are a number of elements in the proposed bill that would create stress on the financial side of the electric utility industry. I hope these will be considered in passing judgement on the bill.

This concludes my prepared statement. I will be pleased to try to answer any questions you might have.

Exhibit 1

1

INVESTMENT PER DOLLAR OF ANNUAL SALES
DECEMBER 31, 1973

Electric power	\$4.18
Telephone	2.85
Railroads	2.54
Gas	2.13
Oil	1.15
Steel	.86
Automobiles	.57

1/ Source: The National Power Survey Advisory Committee
Report: The Financial Outlook for the
Electric Power Industry, Federal Power
Commission, December 1974.

Exhibit 2. Utility New Financing

Year	Investor-Owned Electric Utilities			All Corporate Financing			I-O-E-U Share of Total Corporate Financing		
	Term Debt	New Equity	New Capital	Term Debt	New Equity	New Capital	Term Debt	New Equity	New Capital
1970	\$ 5.7	\$ 2.5	\$ 8.2	\$ 25.3	\$ 5.7	\$ 31.0	22.5%	43.9%	26.5%
1971	5.5	3.9	9.4	29.9	11.4	41.3	18.4	34.2	22.8
1972	4.3	4.4	8.7	31.7	10.9	42.6	13.6	32.3	20.4
1973	5.1	4.2	9.3	45.0	7.4	52.4	11.3	37.2	17.7
1974	8.4	3.8	12.2	44.4	4.1	48.5	18.9	92.7	25.2
1975 ^{3/}	8.1	3.3	11.4	30.9	9.2	40.1	26.2	35.9	28.4
1976 ^{3/}	8.4	3.3	11.7	25.5	13.0	38.5	32.9	25.4	30.4
Total	\$45.5	\$25.4	\$70.9	\$232.7	\$61.7	\$294.4	19.6%	41.1%	24.1%

1/ Source: Ebasco Services via Edison Electric Institute's 1974 Statistical Yearbook of the Electric Utility Industry.

2/ Non-farm, non-financial corporations. Source: Supply and Demand for Credit in 1976, Salomon Brothers.

3/ Estimated; based upon Electrical World September 1975 capital expenditure projections, a 60% external financing requirement and 2.5 to 1 debt to equity ratio on new capital.

ADDENDUM: WHO BENEFITS FROM LIFELINE RATES?

Lifeline rates are advocated by those desiring to help the poor. But who in fact do they help? Residences consuming amounts beyond the "subsistence" level will also benefit depending upon how the revenue loss in the lifeline zone is made up by other users. If that deficit is offset by a uniform surcharge over all other consumption (including residential users who consume more than the subsistence amount), then residential customers consuming more than the "subsistence" amount of electricity will benefit. See Table 1 for an illustrative effect. While different numbers would effect the numerical outcome, the direction is clear: high use residential customers and governmental, wholesale, commercial and industrial customers subsidize most residences.

But that is only the first round, for those customers obliged to pay more will pass these higher electricity prices on to consumers in the form of higher property and income taxes and higher prices for electricity-intensive goods and services. Who ultimately ends up subsidizing whom is difficult to ascertain.

Table 1.

Computation of Lifeline Effect*	
(Surcharge All Classes)	
1. Required Lifeline Reduction	
Per Kwh	2 cents
2. Kwh Billed Below 300 Level	1,000,000
3. Lifeline Revenue Loss (1x2)	\$20,000
4. Nonlifeline Sales, All Classes (kwh)	4,000,000
5. Required Surcharge	
Per Kwh (3÷4)	0.5 cents
6. Net Change in Residential Bills:	
300 Kwh	—\$6.00
500 Kwh	—\$5.00
750 Kwh	—\$3.75
1,000 Kwh	—\$2.50
1,500 Kwh	0
2,000 Kwh	+\$2.50

* Taken from Pace; see fn. 1.

One thing that is clear is that the poor will not likely benefit. First, many live in apartments which are master-metered and pay rent which includes electricity service.^{1/} Second, many poor people have electric hot water heat and electric space heating so that if lifeline rates were restricted to residences with total consumption less than "subsistence", many poor would not be eligible.^{2/} Third, many farmers who are poor are, nevertheless, substantial electricity users. All told, Pace (see fn. 1) estimates that in 14 states, more than 50 percent of the poor would receive no lifeline benefits, while in an additional 25 states more than 25 percent would be left out.

If the objective is to allow residences with low incomes to consume subsistence quantities of electricity without undue economic hardship, then why not subsidize them instead of most residential consumers, using a device such as energy stamps that meets an income test? Better yet, why not subsidize them directly, letting them choose to apply the subsidy to the goods and services they feel they need the most? Finally, if a subsidy to the poor is desired, why not tax an affluent group rather than the clearly unknown providers of the subsidy in the proposed bill?

^{1/} Using 1970 Census data and defining poor as family income less than \$4,000, Pace found that in 13 states, including the three most populated states in the country, more than 15% of the poor do not pay their own electric bills and that in another 14 states, more than 10% do not do so. See Pace, Joe D., "Lifeline Rates: Will They Do the Job?" Public Power, November-December 1975.

^{2/} Pace estimates that in 10 states, 50% of the poor have electric water heaters; in 13 more states, more than 25% have electric water heaters. In five states, at least 20% of the poor live in electrically heated houses. Incidentally, these houses are probably poorly insulated.

PANEL ON CONSTRUCTION WORK IN PROGRESS

STATEMENTS OF: COMMISSIONER C. LUTHER HECKMAN, RICHARD
MORGAN, RICHARD WALKER, AND LORIN H. DRENNAN, JR.

MR. CHAIRMAN, MEMBERS OF THE SUBCOMMITTEE, MY NAME IS C. LUTHER HECKMAN AND I AM THE CHAIRMAN OF THE PUBLIC UTILITIES COMMISSION OF OHIO. I AM ALSO MEMBER OF THE EXECUTIVE COMMITTEE OF THE NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS (NARUC) AND OF THE EXECUTIVE COMMITTEE OF THE GREAT LAKES CONFERENCE OF PUBLIC UTILITIES COMMISSIONERS. I AM PLEASED TO BE HERE TODAY TO DISCUSS THE SO-CALLED "ELECTRIC UTILITY RATE REFORM AND REGULATORY IMPROVEMENT ACT" -- H.R. 12461. WHILE I IN PARTICULAR WILL ADDRESS THE SECTION OF THE BILL DEALING WITH CONSTRUCTION WORK IN PROGRESS, THE FAR-REACHING IMPLICATIONS OF H.R. 12461 COMPEL ME TO MAKE A FEW GENERAL COMMENTS ON THE BILL.

FIRST, CLEARLY THIS BILL CONTEMPLATES A MOST FUNDAMENTAL REORGANIZATION OF ONE OF THE NATION'S MOST VITAL INDUSTRIES, THE ELECTRIC UTILITY INDUSTRY. THE NEED FOR ELECTRIC POWER HAS INCREASED OVER THE YEARS AND WILL CONTINUE TO INCREASE AS LONG AS ELECTRICITY CAN BE GENERATED EFFICIENTLY AND RELIABLY IN THE FUTURE. WHILE THE ARAB OIL EMBARGO PUT CONSIDERABLE STRAIN ON ENERGY PRODUCTION IN THIS COUNTRY, A MORE PARTICULAR STRAIN WAS PUT UPON THE UTILITY INDUSTRY. THE ELECTRICS WERE LOOKED UPON AS AN ALTERNATIVE POWER SOURCE AVAILABLE TO FILL NATIONAL ENERGY GAP WHICH RESULTED IN NEW PRESSURE BEING PUT UPON COAL PRICES IN THIS COUNTRY COUPLED WITH THE PRESSURE OF HEDGE-BUYING, DUE TO A LIKELY COAL MINERS' STRIKE IN LATE 1974. ALL OF THIS OCCURED DURING A TIME OF GREAT INFLATION AND CONSIDERABLE RECESSION. THE ULTIMATE RESULT--HIGHER ELECTRIC PRICES--AS UNDOUBTEDLY LED TO THE INTRODUCTION OF H.R. 12461.

H.R. 12461 PERHAPS BEST EMBODIES A CURRENT PHILOSOPHY OF SOME IN FEDERAL GOVERNMENT TO IMPORSE A FEDERAL DECISION UPON STATE REGULATORY PROBLEMS AND CONCERNS. WHILE SUCH AN INTRUSION MAY BE WELCOMED IN SOME QUARTERS, WE IN OHIO BELIEVE THAT THE PROBLEMS SHOULD BEST BE ADDRESSED AT THE STATE LEVEL. THE NEEDS OF EACH STATE ARE DIFFERENT AND INTERFERENCE AT THE FEDERAL LEVEL WILL RECIPITATE UNDUE CONFUSION AMONG STATE REGULATORS, CONSUMERS, AND THE UTILITY COMPANIES THEMSELVES.

INTERESTINGLY ENOUGH, H.R. 12461 IS FAIR FROM THE LEGISLATIVE EDGE IN TECHNOLOGY IN OHIO ELECTRIC UTILITY RATE MAKING. ALL PROVISIONS OF H.R. 12461 HAVE BEEN EITHER CONSIDERED AND ADOPTED, ARE BEING CONSIDERED OR HAVE BEEN CONSIDERED AND REJECTED FOR OHIO BY BOTH THE STATE LEGISLATIVE BODY AND THE PUBLIC UTILITIES COMMISSION OF OHIO. AS AN EXAMPLE, A NEW FUEL ADJUSTMENT CLAUSE LAW TOOK EFFECT JANUARY 1, 1976 IN OHIO. THE LAW REQUIRES HEARINGS TWICE A YEAR ON THE FUEL-PURCHASE PRACTICES OF THE STATE'S ELECTRIC UTILITIES. THE LEGISLATURE CONSIDERED THE QUESTION OF CAPTIVE COAL MINES AND BELIEVE THEM TO BE IN THE BEST INTEREST OF OHIO CONSUMERS AND URGED THE CONTINUATION OF CAPTIVE COAL PRODUCTION. SUFFICE TO SAY, SINCE OHIO HAS STUDIED THE MATTER, WHY SHOULD THE FEDERAL GOVERNMENT IMPOSE ITS WILL AS REFLECTED IN H.R. 12461.

ADVERTISING PRACTICES HAVE BEEN UNDER STUDY BY BOTH THE LEGISLATURE AND THE COMMISSION AND A BILL WAS PASSED MANDATING THE UTILITIES' RIGHT TO ADVERTISE AND MANDATING THAT THE EXPENSES FOR ADVERTISING BE INCLUDED IN RATE CASE RECOVERY. LIFELINE RATES ARE BEING STUDIED ALONG WITH A STUDY OF THE ENTIRE UTILITY RATE STRUCTURE UNDER FUNDS GRANTED BY THE PUBLIC UTILITIES COMMISSION TO THE OHIO STATE UNIVERSITY. RESULTS OF THAT STUDY SHOULD BE AVAILABLE WITHIN THREE TO SIX MONTHS. SUBSTANTIAL CHANGES WILL UNDOUBTEDLY BE RECOMMENDED IN UTILITIES' RATE STRUCTURE. PEAK-LOAD PRICING IS CURRENTLY BEING MONITORED NATION-WIDE IN VARIOUS EXPERIMENTAL PROGRAMS. THE OHIO PUBLIC UTILITIES COMMISSION IS PARTICIPATING IN ONE OF THOSE PROGRAMS THROUGH THE USE OF FEDERAL ENERGY ADMINISTRATION FUNDS. COST-OF-SERVICE PROVISIONS ARE PRESENTLY BEING CONSIDERED IN THE RATE BASE REPEALER BILL, WHICH HAS JUST PASSED THE OHIO HOUSE OF REPRESENTATIVES, HAVING ALREADY BEEN PASSED IN THE OHIO SENATE. COST-OF-SERVICE HAS LONG BEEN A FACTOR THAT THE PUBLIC UTILITIES COMMISSION OF OHIO MUST CONSIDER IN SETTING RATES IN OHIO. THE NEW LEGISLATION WILL PROVIDE MORE DIRECTION AS TO WHAT REALLY MUST BE EXAMINED. IN SUM, NO PROVISION OF H.R. 12461 HAS BEEN IGNORED IN OHIO. SOME HAVE BEEN REJECTED, SOME APPROVED AS BEING A UNIQUE APPROACH FOR OHIO.

I SPOKE BRIEFLY ABOUT OUR PRESENT RATE BASE--THE RECONSTRUCTION COST NEW LESS DEPRECIATION RATE BASE. THE RATE BASE HAS BEEN IN EFFECT IN OHIO FOR SOME FIFTY YEARS. THE GENERAL ASSEMBLY IS CONSIDERING ITS CHANGE. A BILL HAS PASSED BOTH THE HOUSE AND SENATE. BOTH CHAMBERS HAVE ADOPTED A SO-CALLED ORIGINAL COST FORMULA AS THE PROPER APPROACH. SUBSTANTIAL DIFFERENCE EXISTS, HOWEVER, BETWEEN THE TWO VERSIONS, WHICH WILL UNDOUBTEDLY BE WORKED OUT ON A COMMITTEE ON CONFERENCE BETWEEN THE HOUSES. PRESENTLY IN OHIO A PROPER PHILOSOPHY OF REGULATORY ACTIVITY WOULD EXCLUDE CONSTRUCTION WORK IN PROGRESS FROM THE RCNLD RATE BASE, INASMUCH AS OUR RCNLD RATE BASE TAKES INTO ACCOUNT INFLATION IN VALUING THE UTILITIES "USED AND USEFUL" PLANT. "USED AND USEFUL" PROPERTY OR "PLANT-IN-SERVICE" IS TRENDED TO REFLECT THE CURRENT COST OF SUCH PROPERTY. IN REPEALING SUCH A SYSTEM, THE OHIO SENATE PROVIDED FOR ORIGINAL COST AND, ONE SUBSTANTIAL DIFFERENCE, THE OHIO HOUSE PROVIDED FOR ORIGINAL COST AND CONSTRUCTION WORK IN PROGRESS. UP UNTIL NOW, CONSTRUCTION WORK IN PROGRESS HAS BEEN INAPPROPRIATE IN OHIO, DUE TO THE EXISTENCE OF THE "USED AND USEFUL" PROVISION COUPLED WITH AN INFLATIONARY RATE BASE. ACCORDING TO H.R. 12461, IF A UTILITY WERE ABOUT TO COMPLY WITH OTHER PROVISIONS OF THE BILL, ONLY 66 2/3% OF THE CONSTRUCTION WORK IN PROGRESS COULD BE INCLUDED IN THE RATE BASE. YET, THE OHIO SENATE SAYS NO CONSTRUCTION WORK IN PROGRESS IN THE RATE BASE AND THE OHIO HOUSE SAYS ALL CONSTRUCTION WORK IN PROGRESS IN THE RATE BASE. SURELY NO MORE APT EXAMPLE COULD BE FOUND FOR THE FEDERAL GOVERNMENT TO REFRAIN FROM MANDATING AN OHIO STANDARD WHILE THE HOT DEBATE ON THE RELATIVE IMPORTANCE OF CONSTRUCTION WORK IN PROGRESS IS TAKING PLACE IN OHIO. CONSTRUCTION WORK IN PROGRESS OPPONENTS IN OHIO ARGUE FOR TOTAL EXCLUSION FROM THE RATE BASE AND CITE THE FOLLOWING REASONS: (1) INCLUSION WOULD MEAN AN IMMEDIATE INCREASE IN CONSUMER UTILITY RATES; (2) THE FINANCIAL DIFFICULTY OF SOME UTILITIES DOES NOT JUSTIFY CONSTRUCTION WORK IN PROGRESS FOR ALL CONSUMERS AND ALL UTILITIES; (3) EXTRAVAGANCE IN CONSTRUCTION WOULD BE ENCOURAGED; (4) THERE WOULD BE AN INAPPROPRIATE FINANCING OF INVESTOR-OWNED UTILITIES BY THE RATEPAYER.

PROPOSENTS STATE: (1) CAPITAL INVESTMENT FOR CONSTRUCTION WORK IN PROGRESS SHOULD BE INCLUDED BECAUSE CONSTRUCTION COSTS ARE ESCALATING FASTER THAN OTHER EXPENDITURES; (2) CONSTRUCTION LABOR COSTS HAVE BEEN COMPOUNDING, PARTICULARLY IN THE LAST FIVE YEARS; (3) POLLUTION CONTROL EQUIPMENT DEMANDS ENORMOUS FUNDS; (4) PLANT CONSTRUCTION COSTS PER KILOWATT ARE HIGHER BECAUSE CONSTRUCTION PERIODS ARE EXTENDED; (5) BOTH FOSSIL-FIRED GENERATING PLANTS AND NUCLEAR PLANTS ARE, OF NECESSITY, LARGER AND MORE COMPLEX. MY OWN VIEW IS THAT UNDER THE PRESENT OHIO SETUP--RGNLD--CONSTRUCTION WORK IN PROGRESS WOULD BE INAPPROPRIATE. IF THE LAW IS CHANGED, AS IT APPEARS IT WILL BE, THEN I DO BELIEVE THAT CONSTRUCTION WORK IN PROGRESS SHOULD BE ALLOWED ON ITS ENTIRETY IN THE OHIO RATE BASE. LONGER CONSTRUCTION PERIODS AND HIGH PLANT COSTS HAVE CAUSED UTILITIES TO TIE UP MORE MONEY IN CONSTRUCTION WORK IN PROGRESS THEN EVER BEFORE. FOR INSTANCE, THE PROPORTION OF CONSTRUCTION WORK IN PROGRESS TO NET PLANT-IN-SERVICE FOR OHIO ELECTRIC COMPANIES HAS INCREASED TO 38% FROM 21% IN 1970. HOWEVER, THE FIGURES ARE MORE SHOCKING FOR UTILITIES IN THE PROCESS OF CONSTRUCTING NUCLEAR FACILITIES, SUCH AS TOLEDO EDISON, WHICH HAS SOME \$306 MILLION WORTH OF CONSTRUCTION WORK IN PROGRESS, WHICH IS ALMOST AS MUCH AS ITS NET PLANT-IN-SERVICE. HISTORICALLY, UTILITY INVESTORS WERE NOT CONCERNED ABOUT THE LACK OF RECOVERY OF THE CARRYING COSTS OF INTEREST AND EARNING REQUIREMENTS ON CONSTRUCTION WORK IN PROGRESS, BECAUSE CONSTRUCTION WORK IN PROGRESS WAS RELATIVELY SMALL IN COMPARISON TO PLANT-IN-SERVICE. THIS IS DEFINITELY NOT TRUE TODAY. ANY FINANCIAL ANALYST CAN SHOW YOU THE FACTS ABOUT CARRYING THE COSTS OF CONSTRUCTION WORK IN PROGRESS WHICH WILL ULTIMATELY RESULT IN HIGHER FINANCIAL COSTS FOR THE UTILITIES AND THE CONSUMER. SOME TWENTY STATES NOW ALLOW CONSTRUCTION WORK IN PROGRESS IN THE RATE BASE. SEVERAL ALSO ALLOW RECOVERY OF A PORTION, OR ALL, OF THE CARRYING COST ON CONSTRUCTION WORK IN PROGRESS REVENUES. AS A PRACTICAL MATTER, IF OHIO ABANDONS RGNLD, IT WILL HAVE LITTLE CHOICE OTHER THAN TO DISCARD THE "USED AND USEFUL" CONCEPT. CONSTRUCTION WORK IN PROGRESS IN THE RATE BASE REPRESENTS A REASONABLE APPROACH IF THE COMMISSION CONTINUES TO HAVE DISCRETION ON THE STATE LEVEL.

ABOUT HOW MUCH TO PUT IN AND WHICH COMPANIES SHOULD OR SHOULD NOT HAVE IT. H.R. 12461 BY MANDATING THAT 66 2/3% OF CONSTRUCTION WORK IN PROGRESS IS INCLUDED IN THE RATE BASE WILL EFFECTIVELY STIFLE WHAT IS GOING ON RIGHT NOW IN OHIO. THE INTERFERENCE BY THE FEDERAL GOVERNMENT BY MANDATING SUCH AN ACTION WOULD PROBABLY INCREASE THE RATES THAT OHIO UTILITY USERS PAY AND WOULD CERTAINLY LEAD TO SOME DECLINE IN OHIO UTILITY SERVICE. I URGE YOU TO CONSIDER THE VARIOUS PROVISIONS OF H.R. 12461 INCLUDING THOSE PARTICULARLY DEALING WITH CONSTRUCTION WORK IN PROGRESS AND REALIZE THAT MINIMUM STANDARDS FOR ELECTRIC UTILITIES REGULATED ON A NATIONAL LEVEL MAKE NO SENSE. WE CHARGED WITH THE RESPONSIBILITY BY OUR STATES WILL DO OUR LEVEL BEST TO INSURE FAIR AND EQUITABLE REGULATION IN THIS AREA. THE FEDERAL GOVERNMENT DOES HAVE A ROLE TO PLAY, BUT IT IS NOT H.R. 12461. A GOOD SUGGESTION AS TO THE PROPER ROLE FOR YOU CAN BE FOUND IN THE TESTIMONY OF JAMES MCGIRR KELLY BEFORE THIS COMMITTEE ON BEHALF OF THE NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS. I WOULD RECOMMEND THE SUGGESTION CONTAINED THEREIN AND WOULD HOPE THAT YOU WOULD CONTINUE TO ALLOW THE STATES THE RIGHT TO EXPERIMENT AND INNOVATE AND REGULATE IN THIS COMPLEX AND TROUBLING AREA.

THANK YOU FOR YOUR ATTENTION.

Testimony of Richard Morgan
of the Environmental Action Foundation
before the
Subcommittee on Energy and Power
U.S. House of Representatives
April 7, 1976

Mr. Chairman and members of the Subcommittee my name is Richard Morgan. I am Research Coordinator of the Utility Project for the Environmental Action Foundation, an independent research organization based in Washington, D.C. Our office serves as a clearinghouse for environmental and consumer groups across the country that are working on electric utility issues.

I don't need to tell you that citizens all across the country are concerned about the practices of their electric utilities. Month after month, consumers watch their electric bills increase, even as they use less energy. Each year more communities are affected by the spread of power lines, strip mines, and air pollution, as the electric utilities continue to expand. Many Americans are beginning to ask whether we will need all of the electricity that our utilities are planning to make for us and, moreover, whether we can afford it.

The competitive forces in our society which normally keep prices in line and prevent overexpansion are largely absent from the electric utility industry. To make up for this lack of competition, all 50 states have established commissions to regulate the private utility companies.

But in recent years, the utilities have devised ways of escaping many of the pressures of regulation. The widespread use of the fuel adjustment clause has essentially deregulated the largest portion of the power companies' operating expenses. Other procedures such as future test years and interim rate increases open up the rate-setting process to speculation, often leaving the burden of proof on the utilities' customers.

The latest insult to utility consumers is a proposal called construction work in progress (CWIP). Many utilities are pressuring their regulatory commissions to include the cost of facilities under construction in the rate base on which their profits are calculated. At present, most state commissions do not permit utilities to earn returns on new facilities until these facilities are actually in service.

There is a growing trend among our regulatory commissions toward the inclusion of CWIP in utility rate bases. In recent months, the states of Georgia, Missouri and Washington have all begun allowing CWIP. And recently, the Federal Power Commission has proposed to begin allowing CWIP. While only about ten percent of the nation's electricity is regulated at the federal level, the FPC's action could have nationwide implications. Most state commissions use the FPC's accounting practices, and many are expected to follow its lead if it adopts CWIP.

There are many billions of dollars riding on this simple accounting change. The FPC itself has estimated that the allowance of CWIP would boost rates by 11 percent. Other estimates range as high as 17.7 percent. Based on the FPC's estimate, nationwide adoption of CWIP would cost consumers about \$5 billion per year in higher electric rates. Wherever CWIP is adopted, a typical family's yearly electric bill will rise by approximately \$40.

In concept, CWIP is very simple. It would allow utilities to earn a profit on new power facilities while they are still under construction. It means today's customers would be paying for tomorrow's power. The use of CWIP is similar to a landlord requiring his tenants to pay rent five years in advance. CWIP makes a mockery of the long-standing regulatory principle that utilities should earn a return only on equipment which is "used and useful" in the production of utility services.

The use of CWIP would also allow the utilities to transfer most of their business risks to their customers. Not only would utility customers be required to contribute capital involuntarily, they would also bear the burden of any mistakes made by the utility in building new power plants.

Many utilities have argued that because of a serious shortage of capital, CWIP will be necessary if they are to finance the new generating facilities that will be needed to meet future power demands. Some power companies have even predicted massive brownouts and blackouts by the end of the decade if they do not receive sufficient rate increases. Yet, last year the power industry had a generating reserve margin of 38 percent - the highest in almost 40 years. That is approximately twice the reserve margin recommended by the Federal Power Commission. Utility consumers are paying for all this idle generating capacity in the form of higher rates.

In the past two years, the utilities have increased their generating capacity by 15 percent, while the use of electricity has increased by only two percent. At a time when the utilities should be cutting back on their construction programs, the allowance of CWIP would encourage them to build more unnecessary power plants. The inclusion of CWIP in a utility's rate base would roughly double the utility's profits overnight. And the more construction the utility has underway, the larger its profits would be.

CWIP would also offer a great boost to the faltering nuclear power industry. The utilities could reap quick profits from their investments in expensive nuclear plants, while allowing their customers to bear the burden of nuclear power's chronic unreliability. In fact, many utility finance experts agree that it will be difficult, if not impossible, to finance future nuclear plants without CWIP.

The utilities claim that they need CWIP to alleviate their financial crisis. But it is not the utilities that are in a financial crisis. It's the consumer! The utilities were bailed out by \$3 billion in rate increases last year, and there is another \$4 billion in rate increase applications pending right now. We've seen electric rates go up by more than 48 percent in the last two years. For many citizens, it's now a choice between food and fuel. And it's getting much worse, even without CWIP.

The utilities contend that CWIP will result in lower rates to consumers in the long run by reducing borrowing costs. This argument ignores the fact that by the time we start receiving any supposed benefits from the financing of a particular power plant, we'll already be paying in advance for another plant. As long as the utilities stay ahead of us, we'll never see any of the benefits they promise.

In short, the allowance of CWIP in the rate base would have a devastating impact on electric bills and the environment. It is an accounting gimmick designed to make the utilities very rich at a cost of billions to the American consumer.

There are three pieces of legislation now pending in the House of Representatives which would affect the inclusion of construction work in progress in utility rate bases. Mr. Staggers' bill, H.R. 2633, is basically the position of the Ford Administration. It would require all regulatory agencies to include CWIP in the rate bases of their utilities. The Administration estimates that this provision would boost utility bills by 11 percent. Other provisions in the bill would add another nine percent to electric bills.

A bill introduced by Mr. McFall, H.R. 12608, would amend the Federal Power Act to effectively prohibit the Federal Power Commission from allowing of construction work in progress in a utility's rate base. State commissions, which regulate about 90 percent of the nation's electricity, would not be effected, however.

Mr. Dingell's bill, H.R. 12461, would go a step further. First, it would prohibit the FPC from allowing CWIP in rate bases. In addition, it would allow state commissions to include CWIP in the rate base only after certain other standards have been met. And then, only two-thirds of the value of a utility's construction would be allowed in the rate base.

In my view, not even the Dingell bill goes far enough. No electricity consumer should have to pay now for power plants that won't be producing electricity for several years. Allowing the utilities any CWIP at all amounts to a gaping hole in an otherwise excellent piece of legislation.

I would like to comment on several other provisions contained in Mr. Dingell's bill. The section dealing with rate structure would accomplish most of the objectives which environmental and consumer groups across the country have been striving for in recent years. First, the legislation would require state utility commissions to consider marginal costs when determining rate structures. The marginal cost concept recognizes that those consumers whose power demands are increasing the fastest should pay for the costs of constructing expensive new power plants. The legislation also provides for a special rate for subsistence amounts for electricity used by small consumers. The result of these provisions would be to eliminate declining block rates which encourage energy waste and charge the highest rates to those customers who can least afford to pay them.

The Environmental Action Foundation also supports the bill's provisions regarding the use of automatic adjustment clauses. We believe that these provisions would protect consumers from the overcharges which frequently accompany the use of fuel adjustments, while also protecting utilities from any adverse financial problems during times of rapidly escalating fuel costs. I would like to submit for the record a copy of our report entitled "A Citizens' Guide to the Fuel Adjustment Clause." This report documents many of the abuses of the fuel clause which have occurred in recent years.

We strongly support the provisions of sections 301 and 302 which would require more efficient use of existing generating and transmission capacity by utilities. By reducing the need for new power facilities, these provisions would result in substantial savings for many electricity consumers and offer environmental benefits as well.

One of the most crucial problems in utility regulation today is that of effective participation by the people who pay utility bills. Despite the growing number of interventions by consumer and environmental groups in rate proceedings, it is rare for such groups to have the economic means to adequately

present their cases. Yet there is no question that citizens can have much to offer in a utility rate proceeding. And without public participation, no regulatory proceeding can be truly impartial.

We applaud the subcommittee for recognizing the need to provide funding for citizens who prevail in regulatory decisions. In particular, the provisions for consumer participation at the state level outlined in section 208 are well conceived. However, we are less enthusiastic about the provisions for public involvement at the Federal Power Commission contained in section 308. In the present language, there is nothing which requires that citizens be reimbursed when they prevail in a rate case at the FPC. The decision is simply left up to the Commission itself. Not only should such reimbursement be mandatory, it should be made by an entity independent of the FPC. Citizens V.O.I.C.E., a group which will be testifying before you on Friday, has proposed several modifications of section 308 which we believe would substantially improve the prospects for public participation at the Federal Power Commission.

One of the most important issues dealt with in Mr. Dingell's bill is that of reliability of electric power plants. In recent years we have seen a dramatic increase in unexpected shut-downs of generating facilities. In fact, the decline in reliability of new power plants is a major cause of the recent escalation of electricity rates.

This problem is particularly chronic with nuclear plants. On the average, the nation's nuclear plants have produced only about two-thirds of the electricity they were designed to produce. To quote the Wall Street Journal, unreliability is one of the "most dependable features" of a nuclear power plant. It is for this reason that the nuclear industry has failed to deliver on its promise of cheap energy.

Much of this reliability problem is due to the fact that utilities have little or no incentive to operate efficiently. Consumers must pay for their utilities' power plants whether the plants work or not. So if a plant must be shut down unexpectedly, the utility's profit margin is largely unaffected.

The utility industry badly needs incentives to build power plants that will be reliable. However, I doubt that the reliability provisions in H.R. 12461 would have any effect. The bill establishes standards but doesn't provide any teeth to enforce them. The only way to reverse the trend toward unreliable power plants would be to make the utilities' stockholders pay for some of the costs incurred by breakdowns. I would suggest that those plants which cannot live up to very minimal reliability standards be removed from the utility's rate base when they are shut down.

According to Roger Sant, who heads the Office of Energy Conservation and Environment at the Federal Energy Administration, it costs twice as much to meet our energy needs by increasing the supply than by encouraging conservation. This legislation recognizes that the best way to keep our electricity rates as low as possible is to design regulatory mechanisms which promote energy conservation.

Overall, we would like to commend the subcommittee for drafting an excellent piece of legislation. H.R. 12461 addresses all of the fundamental problems which exist in utility regulation today. With electric bills rising at the rate of 20 percent each year, it is time to strengthen regulation, not weaken it.

There is nothing in this bill which would take away the utilities' ability to operate at a profit. All it will do is force them to better serve their customers. That is what utility regulation is all about.

Congress of the United States
House of Representatives
Committee on Interstate and Foreign Commerce
Subcommittee on Energy and Power

H.R. 12461

"Electric Utility Rate Reform and Regulatory Improvement Act"

Statement of Richard Walker
Senior Partner
Arthur Andersen & Co.

Relative to the Rate Regulatory Treatment
of Construction Work in Progress

(Sec. 203(c)(1) and Sec. 306)

Introduction

The bill in Sec. 203 would prohibit State regulatory authorities from including any portion of construction work in progress (CWIP) in rate base until the utility's rate schedules meet the rate design and other requirements of Sec. 203(a) after which not more than 66-2/3% may be included. In Sec. 306, the bill would prohibit the Federal Power Commission (Commission) from including any portion of CWIP in rate base under any fact condition.

In this statement, I will set forth certain background information which may be helpful to the Subcommittee in its consideration of this matter. I will also state the reasons for my belief that these provisions are not in the best interests of the public or of utility customers.

General Statement of Views

Utility rate regulation in this country is, as was pointed out in the U. S. Supreme Court in the Hope case in 1944 and in the Memphis case in 1973, a process of balancing customer and investor interests. By this balancing process, utility rate regulation offers the opportunity for the maximum exploitation of the free market process in the supplying of capital, facilities, and the other components of utility service while shielding the customer from the absence of competition and the high cost of redundant, capital intensive facilities. When operating properly, this system of utility rate regulation has provided substantial public benefits.

However, this system of utility rate regulation has not been fully adapted and revised to cope with the soaring cost increases of recent years which have been compounded by a combination of price inflation, increased safety regulation, huge environmental requirements, extended facility licensing requirements, and OPEC oil pricing policies. The shortcomings of the traditional utility rate regulation methodology, which have been met at least in part by the intelligent and responsible actions of many State regulatory agencies, have a particularly important focus in the problem of the utilities' investment in CWIP.

In past years, when the dollars invested in CWIP ordinarily varied in a range of 4% to 6% of total capital invested, the electric companies could adequately service that capital by the process of capitalizing the "Allowance for Funds Used During Construction" (AFUDC), formerly known as "Interest During Construction." By capitalizing the interest cost of borrowed money and the estimated or imputed cost of common, both to the extent invested in construction, the electric companies could look forward to having those carrying costs returned to them by way of future depreciation allowances. They also received the opportunity to earn a return on these carrying costs which were capitalized as such costs were includable in rate base.

But the system of capitalizing AFUDC, which worked well when CWIP investments were relatively small, has been found by the electric companies to be substantially inadequate under today's conditions of huge investments in CWIP. The electric industry as the whole had about 19% of its capital invested in electric construction at the end of 1974, up from 13.5% in 1970 (see Attachment No. 1). Indeed, some electric companies today must plan for individual generating projects which alone will cost more than all previous construction accumulated throughout their entire history.

Their problem is compounded by the combination of relatively large investments in CWIP, longer periods of construction, and higher capital cost rates for both borrowed and equity money. As a result, the electric companies have found an increasing portion of their income derived from AFUDC credits. For instance, these construction credits in the electric industry were less than 5% of net income available for common stock in 1965, but were 35% in 1974 (see Attachment No. 2). Some individual electric companies have experienced AFUDC credits which are more than 75% of their net income available for common.

In case after case, electric companies have not earned enough from operations to meet their interest, preferred stock and common stock dividend requirements. Thus their investors were left in the position of paying their own interest and/or dividends. And, of course, their internal cash generation fell substantially in relation to their construction requirements.

The effect of all of this was to turn off investors from the electric industry. Some have condemned AFUDC income credits as contrived or "psychedelic" and in any event not acceptable as compensation for the use of their capital at least in the proportions being experienced.

Further, under mortgages and other security agreements, AFUDC credits are usable as debt interest coverage only to a limited extent. The security rating agencies also exclude the AFUDC credits in some of their most crucial coverage computations which are important in the setting of debt ratings.

Under these critical circumstances, rate regulatory authorities were faced with the necessity, if some electric companies were to have continued access to the capital markets, of increasing cash flows from operations by either (a) increasing allowable rates of returns, or (b) including CWIP in rate base. (Other measures to increase cash flows, such as increased income tax allocation, were also adopted.) As between (a) or (b), some regulatory authorities chose (b), the inclusion of CWIP in rate base. From the viewpoint of the customer, the decisions to include all or some part of the construction in rate base are eminently sound because necessary cash flows are provided to the utilities under conditions of substantial reductions in both depreciation base and rate base in the future -- a definite quid pro quo to utility customers which would not have been available from the selection of (a) -- the allowance of increased rates of return.

Beyond these critical and practical considerations, there is, contrary to what might be believed as a matter of first impression, a substantial element of fairness as between customers and investors in the practice of including CWIP in rate base. This can be seen when it is considered (a) that much utility construction is to meet the indicated future needs of present customers, (b) the capital committed to the construction program is used or useful in carrying out the energy supply program and does not become so only when the facilities commence producing or transmitting energy, (c) there is a substantial present value to utility customers in having an investment made now to give them assurance that their future increased requirements in their homes and places of work will be met, and (d) in the long run, the inclusion of CWIP in rate base will produce lower utility rates, particularly when the resulting lower capital cost rates are considered. 1/

1/ This can be seen in Attachment No. 3, which shows the revenue requirements for depreciation, return on rate base and income taxes under the alternatives of including CWIP in rate base and excluding it for a single property investment of \$10,000. This effect of a much larger investment can be determined by using an appropriate multiple of \$10,000.

The comparative revenue requirements of including CWIP in rate base vs. excluding it under conditions of a continuous growth of 5% annually are illustrated in Attachment No. 4.

While the AFUDC method -- the capitalization of the carrying costs of capital tied up in construction -- has in the past been the principal method used to service capital tied up in construction, the entire ratemaking methodology used for the handling of CWIP is far more complex than apparently has been assumed in the drafting of H.R. 12461. Some of these matters are set forth below.

In many jurisdictions, construction projects involving relatively small investments (but significant in the aggregate) for relatively short periods of time are included in rate base by the State regulatory authorities. AFUDC is not capitalized on these projects both as a matter of reducing the cost of bookkeeping and to avoid compensating the utility twice for the same capital cost. As most of these projects are or will have been placed in service by the time the new utility service rates are placed in effect, which is ordinarily true of many of these projects, ordinarily no question is raised as to the propriety of the ratemaking methodology.

As H.R. 12461 makes no exception in this regard, State regulatory authorities would likely be forced to abandon this practice. They could then cause these construction investments to be serviced by the capitalization

of AFUDC -- and this additional AFUDC is not likely to serve the public interest in the sense of bringing about an adequate supply of electric energy at the lowest possible economic cost.

It also appears that H.R. 13461 does not accommodate those situations where CWIP has always been included in toto in rate base and no AFUDC has ever been capitalized. In those situations, present customers are currently receiving the very large and substantial benefits of the reduced rate base and the reduced rate for the computation of depreciation charges of this past practice. As rates are now set in the face of excluding CWIP in rate base (so that, at the conclusion of a rate case, customer and investor interests are presumably balanced) the elimination of even 33-1/3% of CWIP from rate base could have the most serious consequences. The elimination of all CWIP from base would be devastating and would, in my opinion, unquestionably cost customers far more in utility rates because of the necessity to use more costly alternative methods of providing adequate cash flows to those utilities and because of increases in interest and equity capital cost rates.

As yet another complexity of utility rate regulation which apparently has not been accommodated in H.R. 12461, many State regulatory authorities include all CWIP in rate base while permitting the capitalization of AFUDC, but treat the AFUDC credits as income for the "test period" to avoid double counting. Regulatory authorities may also follow this practice for gas and telephone companies. By their selection of the rates of return in relation to the AFUDC rate and by their selection of the investment amounts to serve as rate base, these authorities effectively allow a portion of CWIP in rate base or, conversely, effectively reduce the rate base. These authorities can, by this method, treat the various utilities equally as a matter of ratemaking procedure while finding a balance between customer and investor interests in each situation. Further, by use of this procedure, the balance presumably can be maintained reasonably if there are long periods of time between rate cases. As drafted, H.R. 12461 would eliminate the availability of this method to electric companies. Whether the results of this elimination would be good or bad as in the public interest is uncertain.

The inclusion of CWIP in rate base is a desirable rate regulatory procedure because it will permit many utilities to obtain necessary current cash flows at a cost to customers which is more economical than available alternatives. Its use will produce lower long-run capital costs while providing a dollar-for-dollar reduction in future rate and depreciation bases. Its use will also enable many utilities to raise capital funds from the investing public to carry out necessary construction programs; without this rate treatment, cash flows obtained under traditional utility rate regulation based on original cost will be inadequate to sustain these large investments in construction.

Therefore, I respectfully suggest that the proposals in H.R. 12461 dealing with construction work in progress (Sec. 203(c)(1) and Sec. 306) should be deleted and that the State regulatory authorities and the Federal Power Commission should be encouraged or directed to include CWIP in rate base (in combination with the cessation of the capitalization of a pro rata portion of AFUDC) as a desirable means of carrying out some of the objectives of H.R. 12461 at the lowest economic cost to customers.

Background Information

At the risk of redundancy to Subcommittee members but for the benefit of those uninitiated in the CWIP subject, it appears desirable to observe the workings of the entire process of making investments in public utility property and the servicing of these investments by means of the ratemaking process.

In a free market economy, investors will place their money in a particular public utility situation only if it offers returns equal to those available in situations of comparable risk under conditions where the principal amount of the investment is also returned. Investors must in the last analysis look to the process of utility rate regulation to determine whether they should commit their funds. Having invested their money, they will expect the rate regulatory process to maintain their capital intact through depreciation charges and permit the earning of a fair rate of return. Stated conversely, if the regulatory process fails to return their funds by way of adequate depreciation allowances plus a fair rate of return, their capital is eroded.

Investors know that the utility investment involves a commitment of their funds for a number of years to the process of construction. As investors -- particularly those dealing with the funds of others -- must be prudent, they will not commit their funds to the utility company for use during this nonproductive construction period unless they are fully compensated during that time period as well. As investors would not commit their funds to be tied up in construction for a period of years without adequate compensation, as has been suggested by some, it is not reasonable to expect that any significant quantity of funds would be available absent that compensation.

The investors' need for adequate compensation for the use of their capital during the construction period has in the past been taken care of in large part by the "capitalization" of the debt and equity costs. These capitalized amounts, which are added to the cost of the property and simultaneously credited to the income for the period, are known as "allowance for funds used during construction" (AFUDC). Such capitalized amounts of AFUDC are expected to be recouped after the property is placed in service by the process of allowing for rate purposes adequate depreciation plus a fair return on the undepreciated balance of property investment.

This historic method of capitalizing AFUDC to service capital tied up in construction, which as a matter of accounting principle is sound and defensible, has under conditions existing in the last few years proved to be an inadequate regulatory method. This AFUDC method has proved to be inadequate in the sense that the current cash flows from customers are not adequate to provide an acceptable current servicing of outstanding securities. Simply put, investors are repelled by a situation where they must provide funds to pay their own interest and dividends.

Where the investments in CWIP have become large in relation to the size of the company and the AFUDC amounts large in relation to interest and dividend requirements, investors have stated in clear and unequivocal terms that the AFUDC method does not meet their needs or expectations and they are unwilling to commit their capital. Under such circumstances, they have cut off the public utilities from funds at reasonable costs or have severely limited the quantity of capital available. As a consequence, the utilities experiencing these conditions are unable to find capital to carry out essential public utility construction.

A more fundamental shortcoming of the AFUDC methodology is its use by the EPC and by many State regulatory

commissions in combination with the historic original cost method of establishing utility rates. The original cost method, which came into use after a long period of relative price stability and which was adopted by the Commission and many State regulatory authorities as a general practice after the Hope case in 1944, simply does not work when the historic original cost levels are substantially out of line with current costs -- a generic condition in the electric and other utility industries today.

However, the present day reality appears to be that there is not a broad enough understanding of the evils of the original cost method to obtain acceptance of a change in its usage. Therefore, if the public utilities are to carry out their public service responsibilities, the historic original cost method must be modified to make it work and this modification today must involve the inclusion of CWIP in rate base to deal adequately with the huge investments that some companies now have in construction. Other modifications of this ratemaking process may also be required but none would seem to be more imperative and more in the service of the public interest under present day conditions.

Electric utility investments in CWIP have increased enormously in recent years. These increases are in part a consequence of the increases in utility construction costs which are evident from Attachment No. 5. This Attachment, which shows the increase in utility construction costs as measured by the Handy-Whitman Index of electric construction has taken a sharp upturn in the last few years. Since 1970, the annual compound rate of increase of construction costs as measured by this Index is 11.2%. This increase is validated by the overall construction cost increase as measured by the Engineering News-Record Index which also shows sharp increases in construction costs. It is important to note the extent of the increase in utility construction costs beyond the experience of the overall economy as measured by the GNP deflator which is also set forth in Attachment No. 5.

The magnitude of these increases can also be seen by reference to the increase in two categories of construction labor taken from one particular utility situation but believed to be representative (Attachment No. 6). As American workmen have sought to stay abreast of the inflation taking place in this country, they have through the force of organized labor substantially increased their hourly wage rates. The cost of materials used in construction have also increased rapidly. Substantial efficiencies

in construction methods, equipment and construction cost control methods have been effective but such improvements simply cannot offset the huge increases in basic construction costs.

As another view of the increase in construction costs, electric capacity being installed today is substantially more costly than that installed years ago. The differential between new plants and those previously in service which are now used as a basis of ratemaking under the original cost method is even greater when the deduction of accumulated provisions for depreciation is taken into account. This is illustrated in Attachment No. 7, taken from the records of one large electric system, which shows the huge increase in the approximate net cost of installed steam generating capacity after 1970 when the net investment, less accrued depreciation, was about \$81 per KW. This is to be contrasted with the projected cost of capacity additions, in that same system, against which there will be no significant depreciation deductions in the near future, of from \$223 per KW to \$693 per KW, depending on the type, location and timing of the plant capacity addition.

Present day construction requirements and standards have extended the construction period by several years for most types of generating plants. While there undoubtedly

are offsets in construction of other types of plant, as a matter of aggregate dollar investment, construction periods have been extended. These extensions of construction periods mean that the capital invested therein is immobilized for a longer period of time. This immobilized capital, at higher present capital cost rates (see Attachment No. 8 as to comparative interest costs), has brought added and substantial pressure on the past practices of servicing this capital by the AFUDC method.

The accounting method of capitalizing AFUDC and crediting such amounts to income in each accounting period is clearly an acceptable method as a matter of accounting principle. But the financial community has reported in clear and unmistakable terms that this method does not provide capital servicing adequate to meet their standards. As a result, the AFUDC method has not been an adequate one to enable many electric companies to obtain adequate supplies of capital.

The disposition of the investment community can be perceived in the Business Week articles where AFUDC was referred to as "Psychedelic Accounting" and "A Case of Phantom Profits." Forbes reported in an article entitled "The Sheep and the Goats" that the electric utility earnings

are not what they appear to be and that the earnings are increased by devices such as capitalizing interest charges during construction and adding such amounts to income.

Reports of utility analysts frequently exclude the AFUDC credits from earnings to show what they consider to be "real" earnings realized from the sale of electricity and not from the AFUDC accounting entries. Further, the rating agencies make important computations of coverages by excluding AFUDC from the earnings available for coverage. Some analysts feel that the market substantially discounts AFUDC earnings.

Comparisons of dividends paid with earnings from operations, after excluding AFUDC accounting credits, are frequently made by knowledgeable analysts whose opinions must be respected. They apparently draw the conclusion that dividends not earned from operations are endangered and that the utility is selling securities to obtain the funds used to pay the dividends (see Attachment No. 10 which shows that the entire electric industry failed to earn its dividends in 1974 when AFUDC credits are excluded). It is plain to see that, regardless of accounting theory, AFUDC lacks the necessary credibility in the financial community for many companies to do their job.

It necessarily follows that changes in the traditional ratemaking formula of determining rate base by reference to original cost of utility plant-in-service less depreciation must be modified to include at least a portion of CWIP in rate base, where such investments are significant, so that the current flow of cash earnings to the utility will be closer to its real needs in terms of capital committed to public service.

Many electric companies have taken substantial steps by way of minimizing and reducing their investment in construction and their commitments to new construction within the limits of meeting essential public service responsibilities. However, load growth within the operating territories of many companies apparently has resumed and if the electric companies are to meet their statutory and public obligations they must generate adequate cash from operations to service their capital.

While many companies have made substantial efforts to reduce investments in construction, meeting essential public service responsibilities require huge amounts of construction expenditures annually. The electric companies must use internally generated funds for operations and to service capital and any remaining amounts are invested in construction. Such remaining amounts have become a very

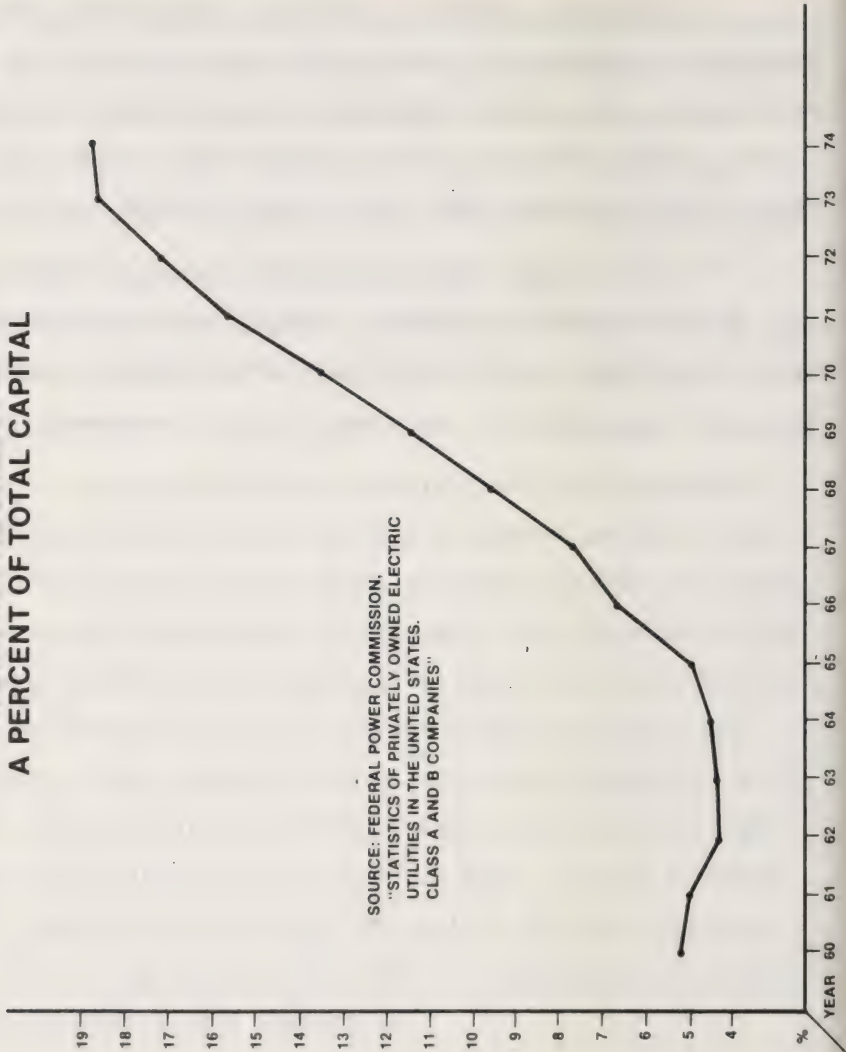
small part of total annual construction expenditures requiring even more outside financing -- more new capital to be serviced. The internally generated funds available for construction in 1974 amounted to less than 25% of that year's construction expenditures. This is shown graphically on Attachment No. 9, which also shows that in the years prior to 1968, the available internally generated funds amounted to over 40% of the annual construction expenditures.

As many electric companies are entitled under their bond indentures to use only a limited amount of non-operating revenues (which includes AFUDC and related income tax credits) for purposes of computing debt coverage ratios, the use of AFUDC to service capital tied up in construction has not produced adequate coverage ratios to permit the issuance of debt securities in the amounts required to sustain the construction effort. Further, as the rating agencies exclude AFUDC in some of their more critical coverage ratio computations, the debt securities of some companies have been downgraded and the threat of additional downgrading is presently most significant.

The heavy portion of AFUDC has contributed substantially to making its common stock less attractive in the marketplace. As a result, many electric companies have been forced to sell common shares at prices substantially below book value, thus increasing the cost of common equity capital.

All of these facts and others indicate a critical need by the electric companies to obtain the inclusion of CWIP in rate base as this will provide the vitally needed financial wherewithal at the lowest cost to customers.

ELECTRIC INDUSTRY CONSTRUCTION WORK IN PROGRESS AS A PERCENT OF TOTAL CAPITAL



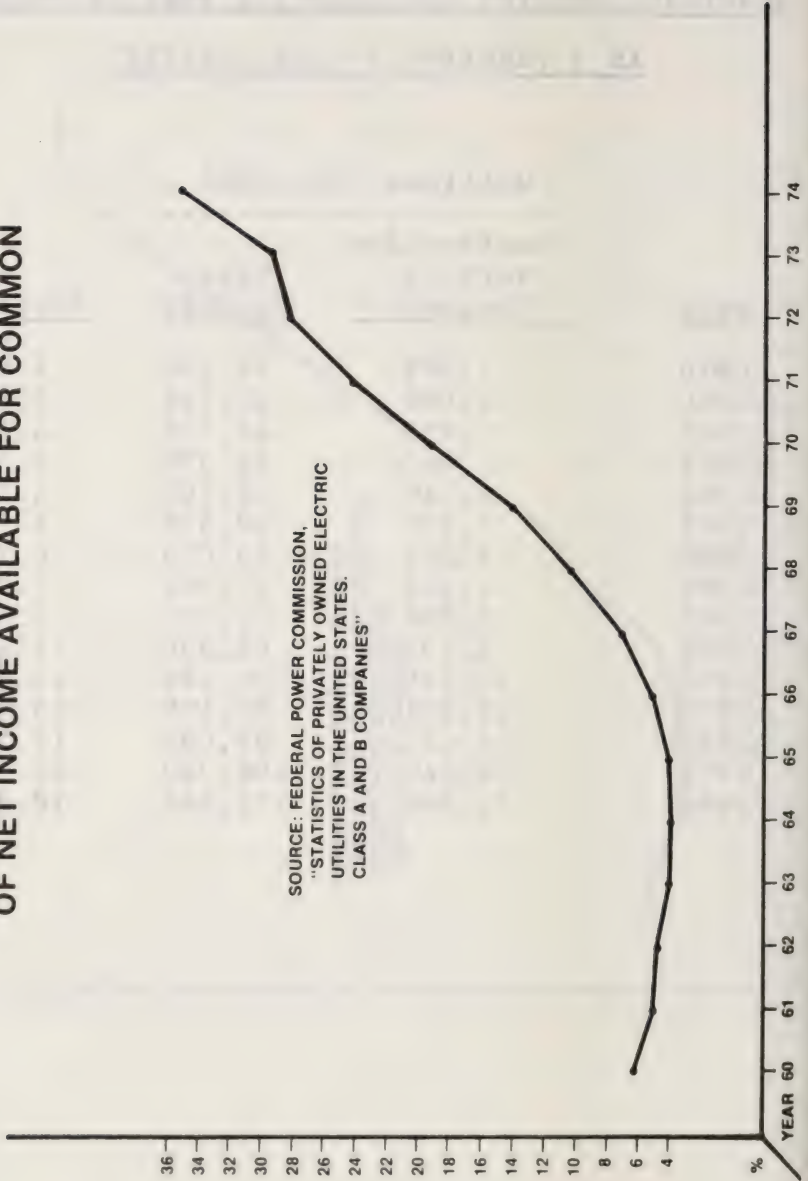
ELECTRIC INDUSTRY CONSTRUCTION WORK IN PROGRESSAS A PERCENT OF TOTAL CAPITAL

Millions (000,000)			

<u>Year</u>	Construction	Total	<u>Percent</u>
	<u>Work in Progress</u>	<u>Capital</u>	
1960	2,089	39,954	5.2
1961	2,088	41,744	5.0
1962	1,873	43,708	4.3
1963	1,960	45,336	4.3
1964	2,146	47,500	4.5
1965	2,436	49,505	4.9
1966	3,569	53,053	6.7
1967	4,418	57,261	7.7
1968	5,896	62,267	9.5
1969	7,731	67,950	11.4
1970	10,330	76,482	13.5
1971	13,531	86,178	15.7
1972	16,623	97,080	17.1
1973	20,246	108,347	18.7
1974	22,846	121,666	18.8

ELECTRIC INDUSTRY ALLOWANCE FOR FUNDS USED DURING CONSTRUCTION AS A PERCENT OF NET INCOME AVAILABLE FOR COMMON

SOURCE: FEDERAL POWER COMMISSION,
"STATISTICS OF PRIVATELY OWNED ELECTRIC
UTILITIES IN THE UNITED STATES,
CLASS A AND B COMPANIES"

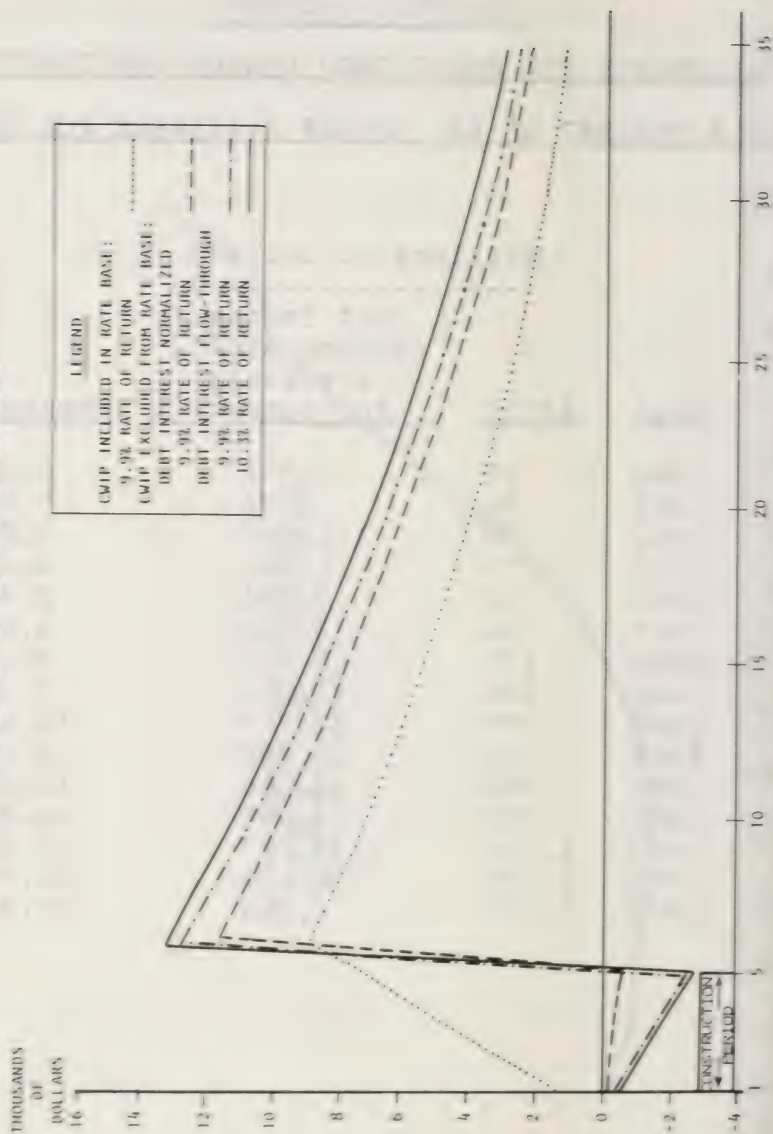


ELECTRIC INDUSTRYALLOWANCE FOR FUNDS USED DURING CONSTRUCTIONAS A PERCENT OF NET INCOME AVAILABLE FOR COMMON

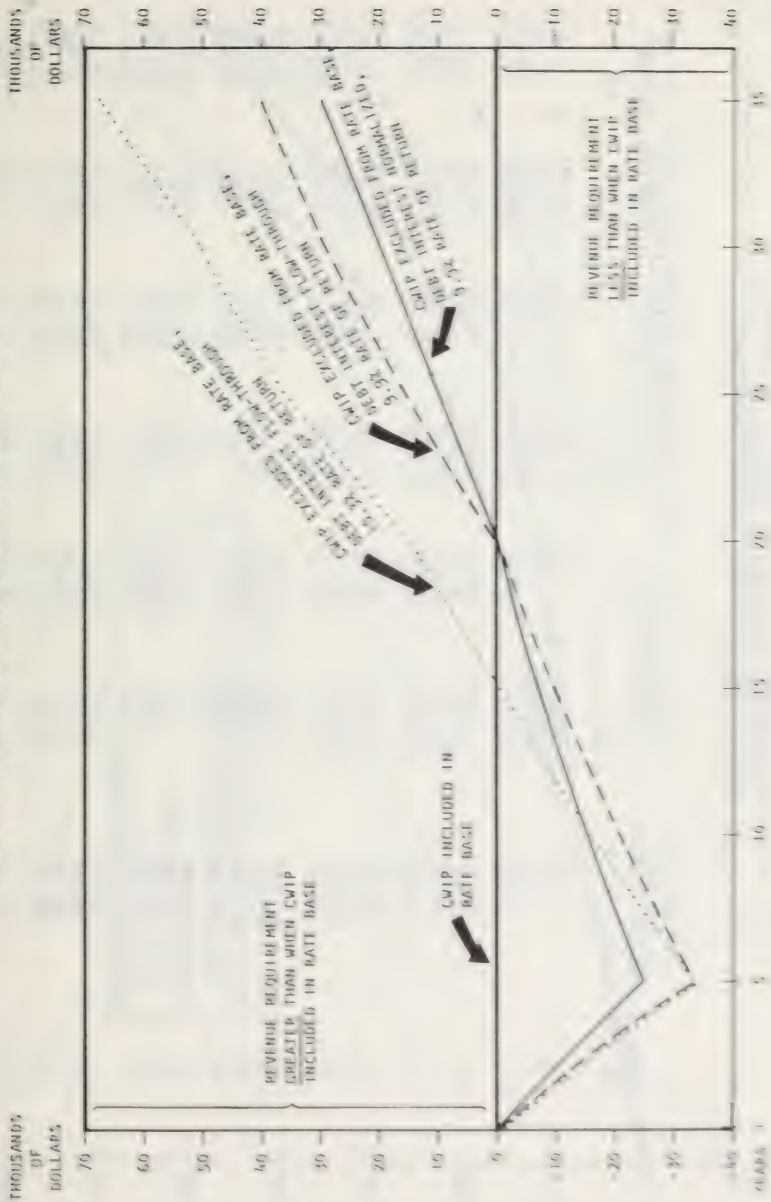
Millions of Dollars

Net Income (Before AFUDC)			
Available			
<u>Year</u>	<u>AFUDC</u>	<u>for Common</u>	<u>Percent</u>
1960	99	1,591	6.2
1961	84	1,674	5.0
1962	89	1,848	4.8
1963	79	1,971	4.0
1964	85	2,184	3.9
1965	94	2,340	4.0
1966	127	2,529	5.0
1967	186	2,663	7.0
1968	275	2,717	10.1
1969	403	2,888	14.0
1970	588	3,046	19.3
1971	812	3,358	24.2
1972	1,069	3,787	28.2
1973	1,237	4,196	29.5
1974	1,531	4,342	35.3

REVENUE REQUIREMENTS, FOR DEPRECIATION
RETURN AND INCOME TAXES--SINGLE PROJECT WITH
DIRECT COSTS OF \$10,000 PER YEAR FOR FIVE
YEARS, AND WITH 30 YEAR SERVICE LIFE



REVENUE REQUIREMENTS FOR DEPRECIATION, RETURN AND INCOME TAXES—CWIP INCLUDED IN RATE BASE VS. CWIP EXCLUDED FROM RATE BASE—CONSTRUCTION CONTINUING AT 5% GROWTH RATE, FIVE YEAR CONSTRUCTION PERIOD, 30-YEAR SERVICE LIFE

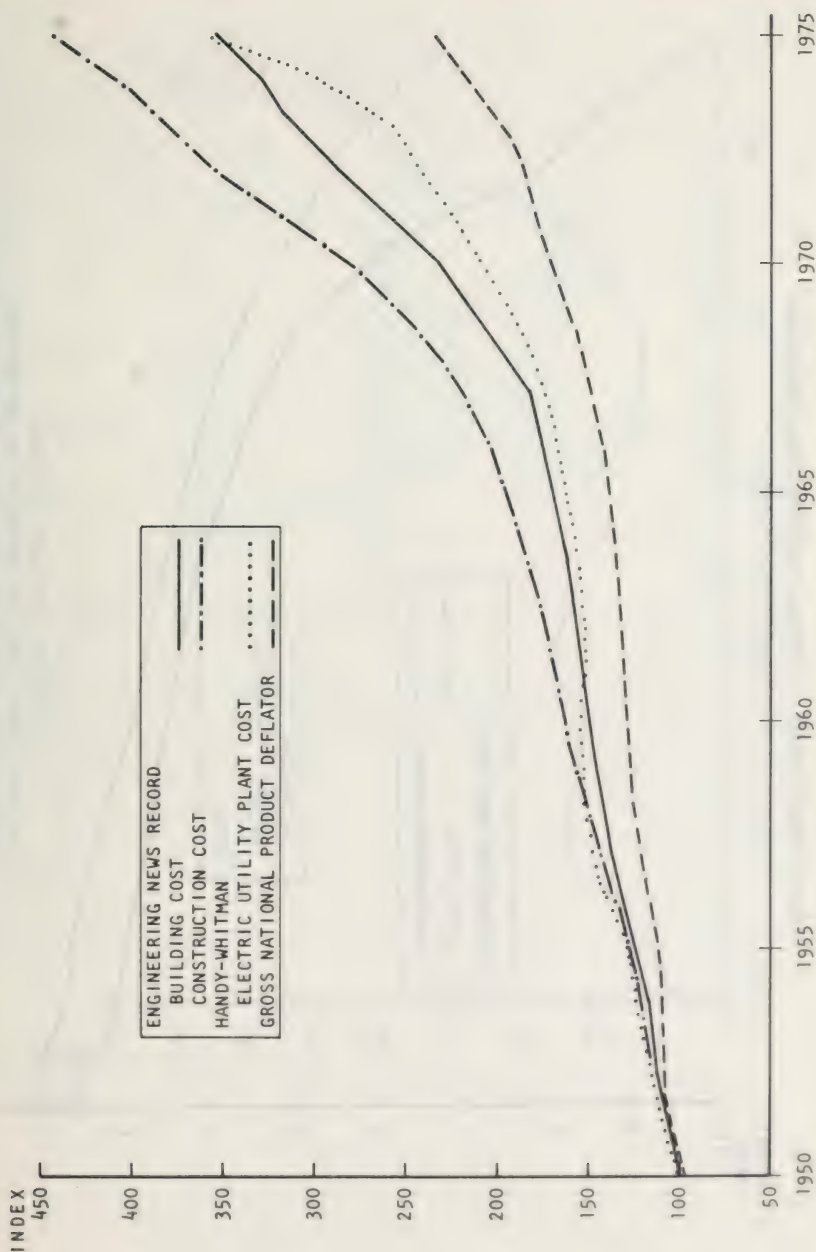


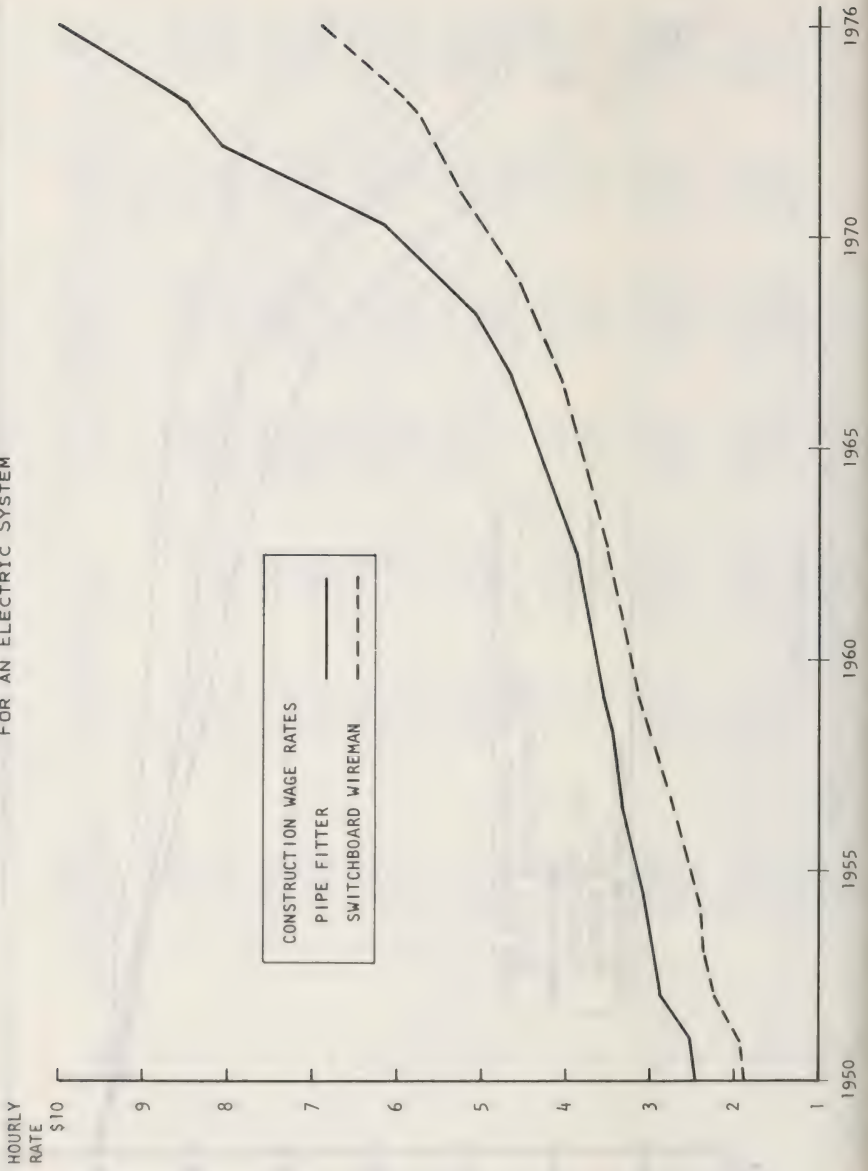
REVENUE REQUIREMENTS FOR DEPRECIATION, RETURN AND INCOME TAXES
CONSTRUCTION CONTINUING AT 5% GROWTH RATE,
FIVE YEAR CONSTRUCTION PERIOD, 30 YEAR SERVICE LIFE

Year	CWIP Included in Rate Base		CWIP Excluded from Rate Base					Debt Interest Flow-Through	
	9.9% Rate of Return		Normalized 9.9% Rate of Return		9.9% Rate of Return		Col. 6	10.3% Rate of Return	
	Col. 1	Col. 2	Col. 3 (4-2)	Col. 4	Col. 5 (6-2)	Col. 6		Col. 7 (8-2)	Col. 8
1	\$	1,519	\$ (1,555)	\$ (16)	\$ (1,978)	\$ (439)		\$ (1,978)	\$ (439)
2	4,696	4,696	(4,783)	(87)	(6,081)	(1,385)		(6,083)	(1,387)
3	9,511	9,511	(9,803)	(292)	(12,460)	(2,909)		(12,468)	(2,917)
4	16,139	16,139	(16,749)	(610)	(21,582)	(5,093)		(21,302)	(5,113)
5	24,698	24,698	(25,764)	(1,066)	(32,727)	(8,029)		(32,770)	(8,072)
6	34,854	34,854	(24,176)	10,678	(30,667)	4,187		(30,013)	4,841
7	45,190	45,190	(22,874)	22,316	(28,985)	16,605		(27,211)	17,979
8	55,618	55,618	(20,960)	34,658	(26,489)	29,159		(24,430)	31,188
9	66,137	66,137	(19,334)	46,823	(24,375)	41,782		(21,606)	44,551
10	76,823	76,823	(17,693)	59,130	(22,242)	54,581		(18,796)	58,067
11	87,638	87,638	(16,040)	71,598	(20,091)	67,547		(15,880)	71,758
12	98,622	98,622	(14,372)	84,250	(17,919)	80,703		(12,975)	85,647
13	109,762	109,762	(12,657)	97,105	(15,694)	94,068		(10,009)	99,753
14	121,176	121,176	(10,987)	110,189	(13,508)	107,688		(7,069)	114,107
15	132,792	132,792	(9,268)	123,524	(11,268)	121,524		(4,064)	128,728
16	144,669	144,669	(7,530)	137,139	(9,002)	135,666		(1,021)	143,648
17	156,830	156,830	(5,774)	151,056	(6,712)	150,118		2,063	158,893
18	169,304	169,304	(3,998)	165,306	(4,393)	164,911		5,190	174,494
19	182,118	182,118	(2,204)	179,914	(2,045)	180,073		8,364	190,482
20	195,302	195,302	(371)	194,931	334	195,636		11,587	206,889
21	208,889	208,889	1,461	210,350	2,743	211,632		14,861	223,750
22	222,908	222,908	3,328	226,236	7,188	228,096		18,193	241,101
23	237,389	237,389	7,119	244,617	17,664	245,062		21,582	258,989
24	252,333	252,333	10,837	263,230	30,179	262,372		25,034	277,447
25	267,930	267,930	9,086	279,016	41,733	280,565		28,534	296,484
26	284,053	284,053	11,062	295,115	53,328	299,381		32,143	316,196
27	300,800	300,800	12,071	312,871	65,868	318,787		35,860	336,608
28	318,236	318,236	13,111	335,227	79,443	338,854		39,752	357,763
29	336,380	336,380	14,185	359,325	94,166	359,766		43,777	379,727
30	355,245	355,245	15,297	374,342	109,196	381,401		47,935	403,340
31	374,952	374,952	21,446	396,398	130,987	403,939		51,303	426,255
32	395,508	395,508	23,434	419,342	153,870	427,378		55,410	450,018
33	416,966	416,966	25,925	443,281	178,769	451,769		59,620	476,976
34	439,341	439,341	28,140	467,481	205,116	477,157		63,938	503,279
35	462,710	462,710	30,460	493,170	233,081	503,591		68,370	531,080
TOTAL	\$6,507,177		\$6,591,547			\$6,616,343			\$6,991,767

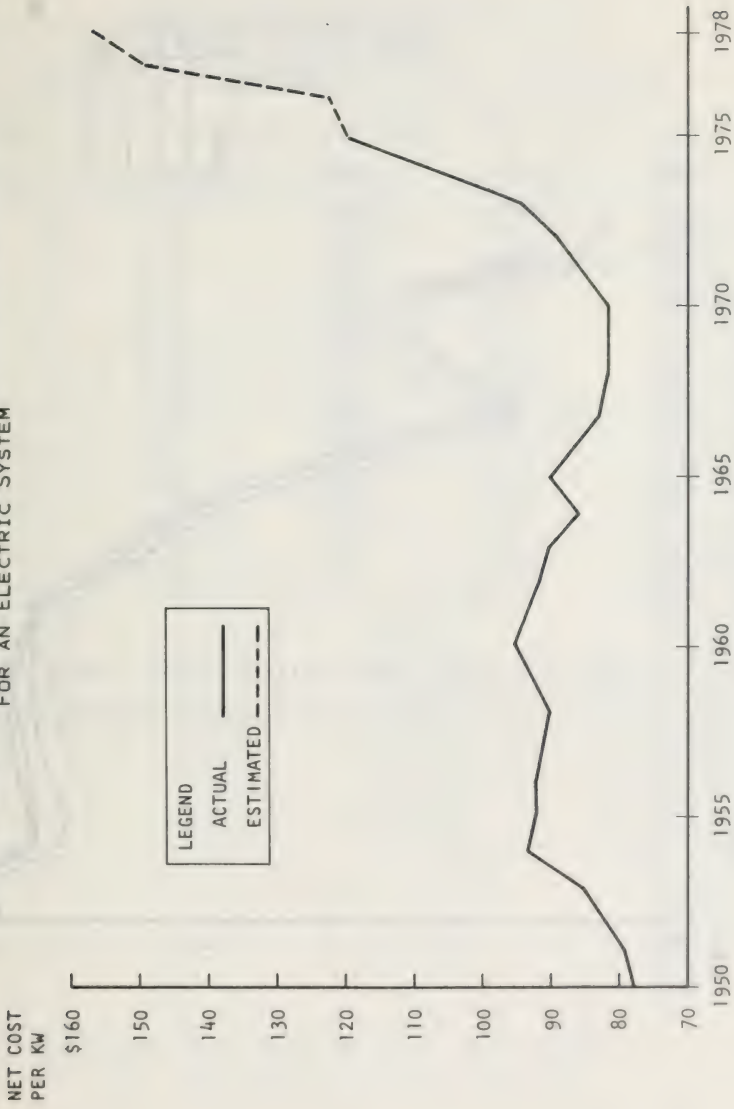
INFLATION INDICATORS - 1950-1975

1950 = 100



HOURLY WAGE RATES - TYPICAL CONSTRUCTION TRADESMEN
FOR AN ELECTRIC SYSTEM

AVERAGE COST PER KW OF CAPACITY OF NET STEAM
PRODUCTION PLANT IN SERVICE AT YEAR-END
FOR AN ELECTRIC SYSTEM



MOODY'S AVERAGE OF YIELDS ON PUBLIC UTILITY BONDS - 1957-1975



Source: Moody's Public Utility Manual, 1975, pp. a6-8

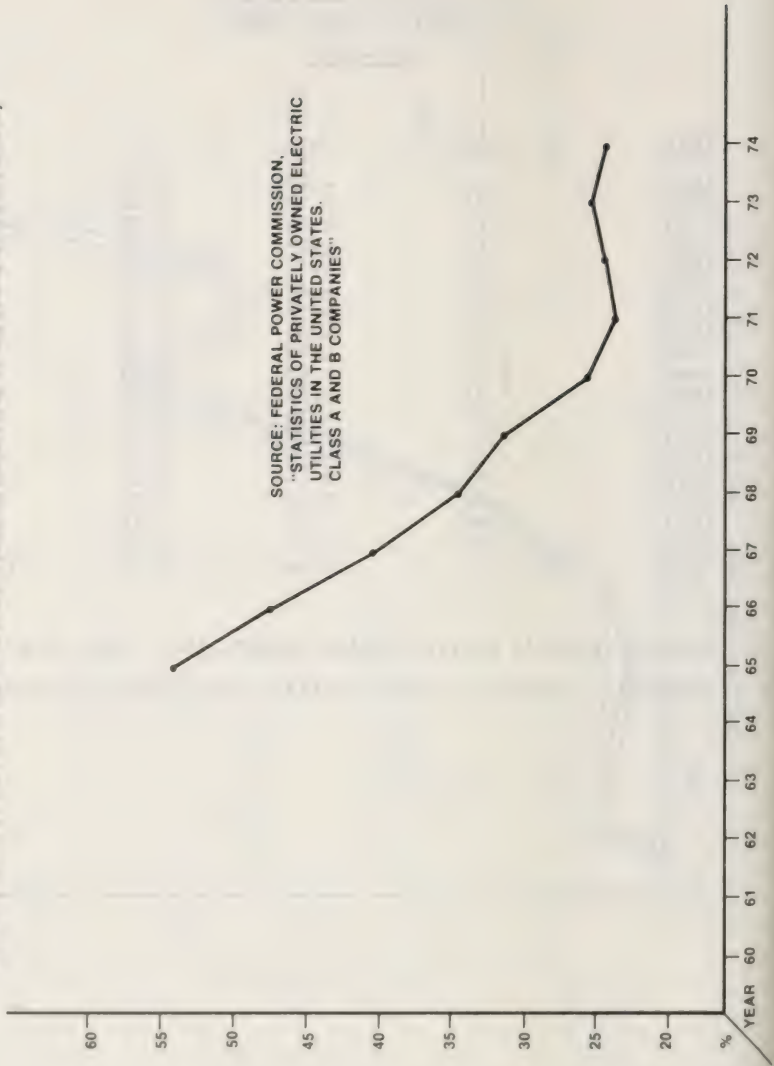
MOODY'S AVERAGE OF YIELDS
ON PUBLIC UTILITY BONDS
1957-1975

<u>YEAR</u>	<u>Aaa</u>	<u>Aa</u>	<u>A</u>	<u>Baa</u>
1957	3.96%	4.03%	4.24%	4.46%
1958	3.87	3.92	4.20	4.43
1959	4.49	4.56	4.78	4.96
1960	4.47	4.53	4.78	4.97
1961	4.37	4.46	4.62	4.83
1962	4.35	4.41	4.54	4.75
1963	4.27	4.32	4.39	4.67
1964	4.42	4.44	4.52	4.74
1965	4.50	4.52	4.58	4.78
1966	5.19	5.25	5.39	5.60
1967	5.58	5.66	5.87	6.15
1968	6.22	6.35	6.51	6.87
1969	7.12	7.34	7.54	7.93
1970	8.31	8.52	8.69	9.18
1971	7.72	8.00	8.16	8.63
1972	7.46	7.60	7.72	8.17
1973	7.60	7.72	7.84	8.17
1974	8.71	9.04	9.50	9.84
1975*	9.03	9.44	10.09	10.96

Source: Moody's Public Utility Manual, 1975, p.p. a6-8.

*EBASCO's Analysis of Public Utility Financing, Year 1975, p.13.

PERCENT OF ELECTRIC INDUSTRY
CONSTRUCTION COST GENERATED INTERNALLY
(EXCLUDING AFUDC) (INCLUDING RETURN OF CAPITAL VIA
DEPRECIATION AND DEFERRED INCOME TAX ALLOWANCES)



PERCENT OF ELECTRIC INDUSTRYCONSTRUCTION COST GENERATED INTERNALLY

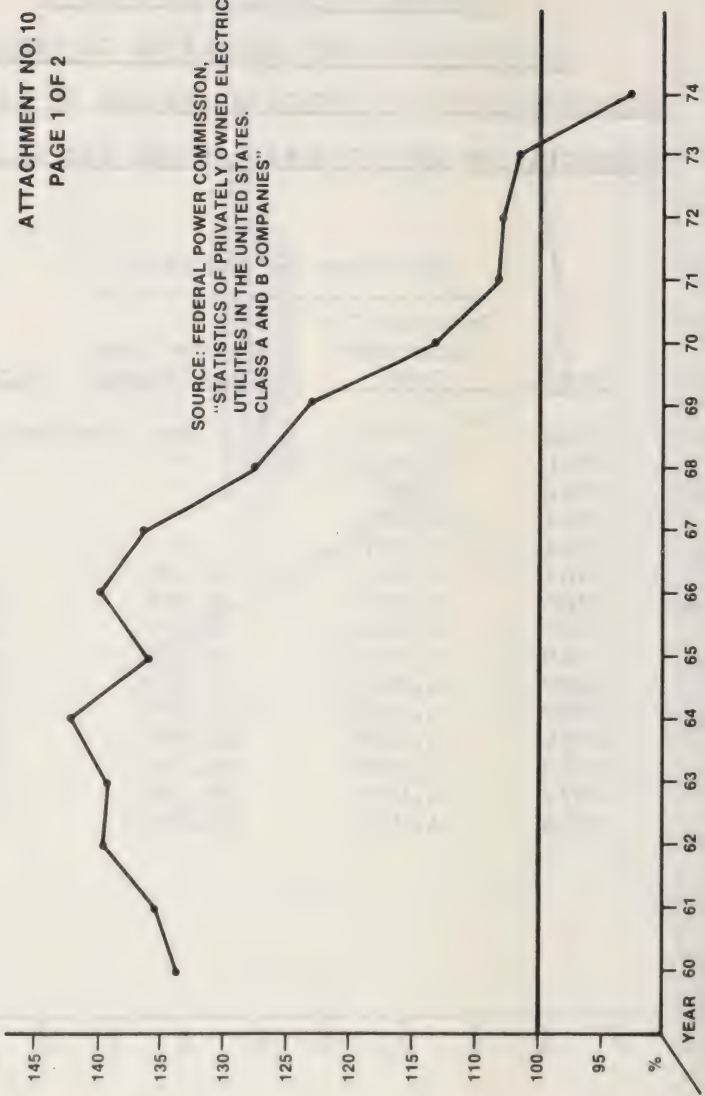
(EXCLUDING AFUDC) (INCLUDING RETURN OF CAPITAL VIA
DEPRECIATION AND DEFERRED INCOME TAX ALLOWANCES)

Millions of Dollars			

<u>Year</u>	<u>Internally</u>	<u>Construction</u>	<u>Percent</u>
	<u>Generated</u>		
	<u>Cash</u>	<u>Expenditures</u>	
1960	1,751	Not available	
1961	1,862	"	"
1962	2,030	"	"
1963	2,133	"	"
1964	2,327	"	"
1965	2,382	4,389	54.3
1966	2,567	5,376	47.8
1967	2,682	6,693	40.1
1968	2,713	7,814	34.7
1969	2,845	9,070	31.4
1970	2,833	11,069	25.6
1971	3,128	13,086	23.9
1972	3,588	14,538	24.7
1973	4,077	16,109	25.3
1974	4,356	17,899	24.3

ELECTRIC INDUSTRY NET INCOME AVAILABLE FOR COMMON (BEFORE AFUDC) AS A PERCENT OF COMMON DIVIDENDS

ATTACHMENT NO. 10
PAGE 1 OF 2



ELECTRIC INDUSTRYNET INCOME AVAILABLE FOR COMMON(BEFORE AFUDC)AS A PERCENT OF COMMON DIVIDENDS

Millions of Dollars

<u>Year</u>	-----		
	Net Income (Before AFUDC)	Common Dividends	<u>Percent</u>
1960	1,492	1,115	133.8
1961	1,590	1,175	135.4
1962	1,759	1,257	139.9
1963	1,892	1,360	139.1
1964	2,099	1,473	142.5
1965	2,246	1,650	136.1
1966	2,402	1,718	139.8
1967	2,477	1,821	136.0
1968	2,442	1,919	127.3
1969	2,485	2,004	124.0
1970	2,458	2,159	113.9
1971	2,546	2,332	109.2
1972	2,718	2,554	106.4
1973	2,959	2,849	103.9
1974	2,811	3,071	91.5

STATEMENT OF
LORIN H. DRENNAN JR., CHIEF ACCOUNTANT
FEDERAL POWER COMMISSION

HEARING BEFORE THE
ENERGY AND POWER SUBCOMMITTEE
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE
UNITED STATES HOUSE OF REPRESENTATIVES

APRIL 7, 1976

Mr. Chairman:

I appreciate this opportunity to discuss certain aspects of H.R. 12461.

Among other things, H.R. 12461 would amend the Federal Power Act to prohibit the Federal Power Commission from including construction work in progress in determining the rate base used for establishing rates for a public utility. The bill would also require that State regulatory authorities meet several specific requirements before they could include construction work in progress (CWIP) in rate base; however, once these requirements are met, up to 2/3 of construction work in progress could be included in rate base for State ratemaking purposes. The reasons for these different approaches to inclusion of CWIP in rate base are not readily discernable.

It appears that the fundamental policy issues relating to inclusion of CWIP in rate base are equally applicable at the State and Federal ratemaking level.

Historically, the Federal Power Commission has consistently refused to permit electric utilities to charge rates which include a return to cover the financing costs relating to plant in the process of being constructed. This policy position was based on the premise that construction work in progress is not property that is "used and useful" in the rendering of utility service. Instead of allowing utilities to charge rates which would recover the interest expenses and equity capital costs associated with construction work in progress, the Commission has allowed these cost to be capitalized as part of plant costs. In accounting parlance, the capitalized amount is called an "Allowance for Funds used During Construction" (AFUDC). The AFUDC capitalized becomes a part of plant costs and, after the plant is placed in service, the AFUDC becomes part of rate base and is recoverable in rates through depreciation expense allowances. Rates also include a return on the unrecovered AFUDC amounts in the same manner as any other unrecovered completed plant cost.

The AFUDC amounts capitalized each year are accounted for as income in the financial statements. However, income generally results in current cash flow, whereas, the cash flow from AFUDC income does not occur currently, rather the cash will start to flow only after the related plant facilities are placed in service. The absence of cash flow under the AFUDC procedure, has caused some persons in the financial community to consider AFUDC earnings as "low quality" earnings". The following table shows for all Class A&B privately-owned electric utility companies, some key relationships between net income and AFUDC capitalized:

(Thousands of dollars)

<u>Year</u>	<u>Net income reported</u>	<u>Allowance for funds used during construction</u>	<u>Percent of net income</u>
1965	\$2,580,688	\$ 93,747	3.6
1966	2,749,071	127,480	4.6
1967	2,980,302	186,261	6.4
1968	2,995,525	274,728	9.2
1969	3,195,961	402,878	12.6
1970	3,407,525	588,406	17.3
1971	2,851,995	812,044	21.1
1972	4,419,491	1,068,682	24.2
1973	4,985,767	1,237,263	24.8
1974	5,297,452	1,530,601	28.9

The Federal Power Act requires that rates be high enough to cover legitimate operating expenses and provide a just and reasonable return on invested capital. Therefore, the principal difference between the procedure of allowing CWIP in rate base, as compared to capitalizing AFUDC, is the timing of charges to customers in rates. If CWIP is included in rate base, customers are required to pay currently for the financial costs relating to plants that are being built, whereas, the AFUDC procedure requires customers to begin paying such costs at a later date - after the plant is completed and in service. The relative total costs to customers of the two procedures is a very controversial subject and many widely different estimates have been made depending upon the assumptions used as to the value of money to the company and to consumers and the length of the construction periods.

During 1974, the Federal Power Commission became increasingly aware of the fact that electric utility companies were encountering major financing problems. Operating costs and financing costs of utilities were increasing rapidly and needed rate increases were often lagging far behind the cost increases. At the same time, cash needs for new construction were at an all time high and growing rapidly. Because of a lack of adequate earnings and/or cash flow, many companies were nearing the point where new debt securities could not be sold or could be sold only at very high interest rates, and costly equity capital could be raised only at a substantial detriment to existing stockholders - due to the fact that common stock securities were selling far below book value. In the long run, this situation could have had serious effects on customers, not only in the form of increased costs but also in the ability of companies to provide reliable power in the amounts needed by customers.

In 1974 and 1975, the Commission considered a number of actions to help alleviate the financing problems of utilities.

One action, normalization of certain tax items for rate purposes, was considered in connection with Dockets No. R-424 and R-446. This proposed action could have provided utility companies with additional cash flow and could have enhanced companies' ability to issue debt securities at reasonable costs. However, application of this concept was severely limited by the Commission, on legal grounds.^{1/}

Another major action considered by the Commission to alleviate the financing problems of electric utility companies was a proposal to include construction work in progress in rate base for FPC ratemaking purposes. This proposal is contained in a notice of proposed rulemaking - Docket No. RM75-13, issued November 14, 1974. While Docket No. RM75-13 is styled as a proposal to amend FPC's Uniform Systems of Accounts, the proposed accounting changes are not substantive, but are more in the nature of clarifications to accomodate the proposed policy change in FPC ratemaking procedures relating to

^{1/} Order 530 issued June 18, 1975 and Order 530A issued January 19, 1976 - Currently being considered further by the Commission. (Order issued March 18, 1976)

construction work in progress. In other words, the basic issue in Docket No. RM75-13 is ratemaking policy rather than accounting procedures.

Comments on this proposed rule were received from 160 parties. The comments were about equally divided between those who agree with the proposed policy change and those who opposed it. As might be expected, the largest group agreeing with the proposal were utility companies and the largest groups opposing the proposal were customers and consumer groups.

Many arguments on both sides of the issue were presented by the responding parties. Some of the principal views in opposition to the proposal are summarized below.

1. Because of a reduction of interest rates and a reduction of consumer demand obviating the need for new plant capacity, the electric industry appears to be over the worst of its financing problems.

2. If the proposal were adopted, it would encourage unnecessary construction, eliminate incentives to promptly complete construction programs and reduce incentives for utilities to actively seek the lowest cost plant and equipment.

3. The proposal would require today's customers to pay higher rates to pay for the financing costs of facilities being constructed to serve customers in future years.

4. The proposal would sweep away the historical "used and useful" concept that has governed the inclusion of items in the rate base.

5. The proposal would provide additional cash flow to all utilities regardless of their relative financial condition or need for additional funds.

6. The proposal would result in substantially higher charges to consumers who are already burdened with huge electric bills.

7. In the long run, the rule would be more expensive to consumers than the present policy.

Some of the principal views supporting the proposal are summarized below.

1. The utility industry faces the need to raise huge amounts of capital in the next several years, and the proposal would help meet this need.

2. Current income or earnings in the form of AFUDC are regarded as lower quality earnings than the cash earnings which would be provided under the proposal.

3. AFUDC earnings are restricted for use in determining interest coverage for bond indenture purposes, and create negative cash flow, therefore, AFUDC should be replaced by cash earnings as proposed.

4. The "used and useful" concept is no longer applicable as new construction is today undertaken primarily to meet the growth in sales and load due to increased consumption by present

customers. If construction must be curtailed due to financing problems, it is present customers who would suffer. Court decisions support the concept that construction funds are being used for the benefit of the public, and that the Commission is not bound by a particular formula for ratemaking.

5. In the long run, the rule would be less expensive to consumers than the present policy.

To obtain current first hand comments on the proposed CWIP rule, the Commission held an Oral Argument on March 8, 1976. The Commission has not yet reached a decision as to whether the proposed rule should be adopted, modified, or rejected.

The financial situation of electric utility companies has generally improved since 1974, however, the need for large amounts of capital for construction purposes still exists for most companies and is likely to exist for many years.

The establishment of rates that are both just and reasonable to customers and sufficient to keep utility companies viable is a complex and difficult task.

Historical ratemaking approaches have been generally considered successful in the past, however, events in recent years have required changes in ratemaking concepts and further changes seem necessary if the privately-owned electric utility industry is to continue to meet the growing demands for its services. The inclusion of construction work in progress in rate base is one significant change in ratemaking policy which, on balance, may well be in the public interest. Of course, this is not to say that inclusion of CWIP in rate base is the only way, or necessarily the least expensive way, of "--- assuring an abundant supply of electric energy throughout the United States with the greatest possible economy ---." ^{3/} Nor is this to say that inclusion of CWIP in rate base is necessarily appropriate or desirable in each and every instance. In specific cases, the evidence may show that the additional cash flow and related benefits arising from inclusion of CWIP in rate base are not needed or are outweighed by the consumer costs involved. The evidence may also show that there are

^{3/} Section 202 of the Federal Power Act.

alternative ratemaking procedures which can better accomplish the desired objectives.

It is my view that Regulatory bodies are in the best position to critically examine the complex interrelated issues and alternatives relating to inclusion of construction work in progress in rate base. Therefore, I believe that the prohibitive and restrictive provisions relating to inclusion of construction work in progress in rate base should be deleted from H.R. 12461.

APRIL 8, 1976

STATEMENTS OF: PANEL ON PLANNING AND SITING, HON.
RICHARD L. DUNHAM, AND ROGER D. FELDMAN

(1111)

PANEL ON PLANNING AND SITING

STATEMENTS OF: MARC MESSING, RICHARD MAULLIN, FREDERICK
W. MIELKE (PRESENTED BY MALCOLM McKILLOP), WALTER J.
MATTHEWS, AND JAMES E. JUST

My name is Marc Messing and I am appearing here today on behalf of the Environmental Policy Center and the Sierra Club. I appreciate the opportunity to testify before this Committee today on Electric Utility Planning and Siting, and I have organized my testimony into three brief sections: 1) addressing the need for energy facility siting legislation and an analysis of the Title VIII legislation contained in H.R. 2633; 2) commenting specifically on the provisions of Title V of H.R. 12461; and 3) including some general observations about the impact of this legislation on the issues of jobs and the economy.

H.R. 2633, Title VIII and the Need for Energy Facility Sites

With the introduction of Title VIII in the President's Omnibus Energy Bill of 1975, we undertook a detailed examination of the justification and the adequacy of the proposed legislation early last year and testified before the Senate Interior Committee which at that time was considering the legislation in the context of the Land Use Planning Assistance. Insofar as the legislation is now being considered in the same form before this Committee, and insofar as our views on the legislation have not changed since its original introduction, I would like to submit our full comments for the record and briefly summarize our conclusions.

Under the proposed Title VIII legislation, the Administrator of FEA would prepare a National Energy Siting and Facility Report within twelve months (sec. 803), and the states would be required to prepare Energy Facility Management Programs within 1 year of the Administrator's report (sec. 804). Although the legislation stipulates that nothing contained within it shall allow the federal government to override any final decision on a specific site selected pursuant to a promulgated State management plan (sec. 804(d)), the bill provides both that the Administrator may prepare and promulgate a State Program if the State prepared plan is judged inadequate (sec. 804(i)(1)), and, that "following the approval or promulgation of a State management program the Administrator may periodically require a State to resubmit its management program or any portion thereof for reapproval." (sec. 804(j)). Additionally, the legislation would permit construction to begin prior to the approval of any site or its facility "in order to expedite the construction of needed nuclear facilities." (sec. 807(h)). Therefore, under the provisions of this bill, the Administrator would have the authority to preempt state siting laws and zoning regulations regardless of whether or not they had already been approved in a state management program, rewrite the state plan, and approve the construction of needed nuclear facilities prior to any site approval. There would be no judicial appeal except on a procedural basis.

We were assured at the time this legislation was introduced that this was not the manner in which these authorities would be

exercised, and that the preemption of state authorities by the federal government was inconsistent with the philosophy of the Ford Administration: the authorities exist in the legislation as it was originally drafted by the Administration and introduced, and more than a year later they remain unchanged. As we testified last May, "We strongly believe that the federal presence and preemptive federal authorities contained in Title VIII of the President's Energy Package are unwarranted in the pursuit of our national energy goals, and inappropriate in the formulation of our national energy policies."

In June of last year we completed a more thorough analysis of the need for energy facility sites and the justification for facility siting legislation, and concluded that FEA's projections on the need for energy facility sites had been based on theoretical models without consideration of existing utility plans and incorporating a series of methodological errors. Based on the need for "640 new electric generating plants (to be) in operation by 1985... (including) the equivalent of 200 1000 MWe nuclear plants and 150 new 800 MW coal-fired plants", we concluded that "if the FEA estimates are compared to available data regarding utility plans and construction schedules, it can be seen that approximately 55% of the estimated facilities are either already under construction or within two years of construction (and presumably beyond the initial site selection stage); an additional 4% of planned capacity additions are comprised of units smaller than those which would be regulated under the federal legislation. If either the number of new facilities likely

to be sited under existing state powerplant siting laws, or the potential for reducing additional capacity demands through more effective energy conservation and utility load management programs are considered, then the remaining number of new facilities which would be affected by federal powerplant siting legislation becomes negligible...

"Through 1985 it appears that current construction plans, existing state mechanisms, and a coordinated federal effort to increase energy conservation measures and improve utility load management procedures, can adequately accomodate projected electric generating units on existing sites, and the increased utilization of small, centrally located sites made available by the retirement of older generating units, may essentially stabilize the number of generating sites needed from 1985 through 2,000. In the absence of data regarding current utility land holdings, it is impossible to evaluate the need for additional site acquisition independently of the need for regulatory site approval."

H.R. 12461; Title V, Electric Utility Planning and Siting

The Electric Utility Rate Reform and Regulatory Improvement Act obviously addresses these concerns. It has eliminated the offensive preemptory authorities contained in Title V, and it clearly recognizes the energy conservation, and load management principles discussed in our analysis last year. Additionally, it

recognizes the potential energy conservation and economic savings associated with the industrial cogeneration of electricity; something not included in our calculations last year. Ironically, however, and I believe unintentionally, the provisions of Title V tend to undermine the incentives of Titles 11 and 111.

Under the long range planning and coordinating provisions of Title V (sec. 501(a)) utilities are required to disclose plans including the size and type of projected bulk power facilities, the location of general sites projected for use, and the identification of alternative bulk power facilities for ten year periods. Projected unit and capacity additions (and retirements) by unit size, type, and site, are already required by the Federal Power Commission under Docket R-362, Order 383-3, and are aggregated by the FPC staff in usefull summaries. Due to the lead times involved in most of these projects, the summary of ten year projections are valuable analytical tools, but are not truly helpful for planning purposes. They reflect decisions already made, rather than decisions to be made. Twenty year projections, on the other hand, provide adequate time for planning, but are not usefull as projection tools given the current uncertainty of forecasting trends. More importantly, the provision for consideration only of bulk power alternatives, clearly prejudices the entire planning process towards the consideration of electric energy supplies-- rather than total energy systems. The important decisions regarding future energy supplies, economic choices, and community planning, are reflected in the choices between single-purpose central station electric

generating plants, and a wide variety of emerging alternatives: not between the placement of the powerplant. The range of alternatives which can and ought to be considered in community, metropolitan, and regional development, are represented in a recent study prepared by the Seattle City Light Municipal Power Company. Faced with the typical financial decision of whether to buy into the production capacity of planned nuclear reactors, Seattle City Light, under the direction of the City, and without external funds, undertook a comprehensive study of the energy alternatives open to the City of Seattle. It did not conclude that the choices were between adequate electric energy and energy shortages, or reversions in life-styles, or a return to the dark ages, as we hear frequently. Rather, they indicated that the City had a wide range of alternatives in planning its future energy supplies and economic growth, and it prepared seven different scenarios with ranges of annual electric energy growth from 7% to 0%, and with life cycle costs for electricity ranging from 26.7 mills/kWh (for the all electric scenario) to 6.2 mills/kWh (for the high conservation scenario). It was found that the different scenarios would result in different job patterns, but no necessary causal relation was found between jobs or the economy and energy consumption and neither unemployment nor economic recession were considered as elements of the scenarios. What was considered were the real alternatives available to the community of Seattle. But this sort of planning will be discouraged by the uniform requirement of bulk power facility planning, rather than the encouragement of total energy system planning.

Similarly, section 501(c) does not accomplish what it ought to in conjunction with the provisions of the earlier titles of the Act. Despite the fact that the planning councils to be designated by the FPC have no actual authority, their responsibility is to the supply of bulk electric energy supplies. I believe it has been the experience of the Western Interstate Nuclear Board, as with the Atomic and Space Development Agency in New York and the old Atomic Energy Commission, that the inclination in responsible energy planning has required a gradual expansion of purviews in recent years, and the gradual consideration of a wider scope of energy alternatives than originally considered in the charter of these various agencies. In the establishment of regional planning councils that ought to be recognized from the outset, and the mission assigned to these councils, if they are to be established, ought to be the consideration of the most efficient, reliable energy systems rather than the promotion of electric energy supplies. Moreover, under Title 111 of H.R. 12461, these planning councils serve as the boundary units for wheeling arrangements and bulk power regulation. Consistent with the concerns expressed above, I am not sure this is desirable.

Utility Rate Reform, Powerplant Siting, Jobs, and the Economy

Finally, I would like to make some cursory observations about the related issues of jobs and the economy. For more than two decades it has been accepted as an article of faith that the historical correlation between jobs, GNP, Btu's, and KWh's all reflected a causality on which we could build economic prosperity. Unfortunately

~~it now appears that that correlation was nothing more than a~~
correlation, and the causal relations between jobs, energy, and
the economy are very different. The most salient facts are
these:

1) The electric utility industry is the most capital intensive in the nation, requiring \$4.18 of investment capital for every dollar in annual sales; compared with \$2.13 for the gas industry, \$1.15 for oil, \$0.86 for the steel industry, and \$0.57 for the automobile industry (Technical Advisory Committee to the Federal Power Commission on the Financial Problems of Electric Utilities, December 1975);

2) Electric generation is one of the least efficient consumers of energy, wasting more than 60% of the energy resources consumed by the industry, and with efficiencies generally leveling or declining. While modern coal fired powerplants are more efficient than older ones, nuclear powerplants are less efficient than either, and transmission losses tend to increase as powerplants are constructed farther from load centers. At the same time the energy efficiency of electric appliances, such as air conditioners and such basic instruments as 1/4 horsepower motors, is also declining. ("Conservation and Peak Power: Cost and Demand", Goldstein and Rosenfeld, Jan, 1976);

3) Electric energy production is energy production rather than job intensive, and creates fewer jobs than many energy conservation alternatives or other economic alternatives (Hannon and Puelo, Center for Advance Computation, 1974);

The net result, as many observers have begun to note following several years of accumulating interest in the financing of the utilities and the economics of competing technologies, is that the accelerated growth of electric energy production and consumption will benefit only discreet (and possibly saturated) work forces, with only a marginal benefit to the economy in general. Although jobs may be lost in industries which are dependent upon wasteful energy practices at a time when energy waste is no longer economically feasible, more new jobs can be created, at less cost to the economy, through the pursuit of energy conservation alternatives rather than high energy production scenarios. More likely jobs will be lost and the economy depressed as capital is drained off of the market in subsidies to electric power generation, while multinational corporations enjoy the luxury of disaggregating their production capabilities to capitalize on either lower labor or energy costs according to their requirements. No jobs are likely to be gained by having American labor construct the electric energy facilities which enable multinationals to take advantage of low cost electric supplies here, while shipping their labor intensive requirements to cheaper labor markets.

As the Dow-Midland Energy Industrial Center Study concluded, in a series of findings which indicated the potential for an energy savings of 680,000 bbl/day by 1985 with a concomitant capital savings of \$2-5 billion per year,

"It is simply a question of time before the inability of the electric utility industry to provide reliable power will become a serious industrial problem leading inevitably to declines in gross national product and increased unemployment."

I believe the objectives of the Electric Utility Rate Reform and Regulatory Improvement Act are focused in the right direction, but as written I do not believe they would adequately serve the intended purposes, and the provisions of Title would effectively undermine the progressive objectives of the Act.

TESTIMONY
OF
RICHARD MAULLIN

CHAIRMAN, CALIFORNIA ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION BEFORE THE UNITED STATES
HOUSE OF REPRESENTATIVES, COMMITTEE ON INTERSTATE
AND FOREIGN COMMERCE, SUBCOMMITTEE ON ENERGY & POWER

APRIL 8, 1976

Mr. Chairman and members of the Committee:

It is a pleasure for me to participate in your hearings on electrical utility planning and siting. For the record, I am Richard Maullin, Chairman of the California Energy Resources Conservation and Development Commission.

The California Energy Commission is the state's thermoelectric power plant siting authority. In addition, the Commission is responsible for the State's energy conservation programs apart from those achieved through utility rate decisions. Regarding the latter, the Energy Commission is mandated by section 25403 of the California Public Resources Code to study utility rate design and make recommendations to the California Public Utilities Commission on rate structures for conservation purposes.

The Energy Commission also carries out a major program of energy research and policy analysis. The findings of this research provide the basis for periodic recommendations on energy policy to the governor and legislature as well as inform the Commission in its own rule making and quasi-judicial proceedings.

I would like to introduce into the Sub-Committee's record a copy of the Warren-Alquist Act which sets forth the Energy Commission's duties including its facility siting procedures.

Before addressing myself specifically to HR 2633 and HR 12461, I would like to discuss certain principles of federal and state roles regarding electric power plant siting.

First, it is my opinion that the states are the most appropriate jurisdiction for the determination of land use for power plants and are also the most appropriate jurisdiction for assessing the future need for electrical energy within their boundaries. State government's offer a high enough level of aggregation so that broad and interrelated social, economic and environmental factors can be assessed on a system wide basis. Yet, while state governments are at a high enough level of aggregation, they are also not so distant from the consumers and producers as to miss important local details, or be non-responsive to the nuances of regional economic patterns and environmental considerations.

In my view, a successful state siting authority must display two key characteristics:

First, it is essential for state power siting authorities to utilize analytical procedures in making decisions on new power plant sites and facilities. This is to say that for each application, there should be a clear determination that the proposed additional power is needed and that in terms of the optimal

supply mix, the particular plant in question is the best way to satisfy that need. To do this requires the siting authority's staff to carefully evaluate total electric energy demand and peak demand within state and service area utility systems. Evaluation of future supply and capacity expansion plans is also required to identify the most environmentally benign and least cost supply alternatives. In the evaluation of both demand and supply, the potential for conservation measures must be fully and explicitly accounted for.

California's siting law makes this type of analytical process the cornerstone of power plant siting. State law requires the Energy Commission to make an official ten year forecast of energy demand and supply alternatives. Following the statute, the Commission does this in a cooperative fashion with the state's utilities and public by first establishing a common forecasting method which all the state's utilities must use in making annual reports of loads and resources. These reports are then subject to public comment. With public comment and the utility reports in hand, the Commission adopts a preliminary forecast. This forecast is subject to public hearings prior to the adoption of a final decision.

With this analytical effort, the Energy Commission is able to fit specific power plant proposals into the context of overall all system needs, and it is able to evaluate not only the economic and environmental costs and benefits of a single plant proposal but also the cumulative impacts of predicted electrical power plant expansion and replacement.

In addition to the analytical process described above, I believe it is essential

for power plant siting to take place in a single forum. Prior to the creation of the California Energy Commission, a site applicant in California often faced as many as 28 different permit authorities. While some might think that multiple permits allows for necessary checks and balances, in fact, the multiplicity of permits prevented any truly systematic review of economic and environmental costs and benefits. Much has been said regarding the virtues of one stop power plant siting. However, the success of a single stop siting process is not simply measured by the expeditious handling of a siting proposal. It is best measured by the degree to which the process incorporates the analytical effort I described earlier and the degree to which the public and the variety of functionally oriented state and local agencies contribute to the record upon which the application is decided. These two principles for a state siting authority are difficult to realize. Their achievement requires a sophisticated staff of professionally trained experts, a conscious effort to stimulate and make effective public participation, and a dedication to overcoming the natural tendencies of public bureaucracies to protect their turf and to ignore important and related matters not falling exactly within their jurisdiction.

These requirements lead me to what I see as the most productive federal roles in the energy facility siting process:

I see the Federal government in the role of providing high quality technical assistance to the states so that power plant siting reflects a sophisticated and multidisciplinary approach to land use determination and economic planning.

From my own experience, I can tell you that the confection of an electricity forecasting effort is a methodologically complex effort fraught with numerous pitfalls. My state, with a good deal of trial and error, will probably succeed in producing forecasts of electrical demands and supply that will be as reliable and explicit as any available. This does not mean that we will have a black box that eliminates uncertainty about what to approve or disapprove. But it does mean that the degree of uncertainty will be reduced and the costs and benefits of any specific proposal more universally agreed upon.

Several other states have developed or are starting to develop similar analytical techniques. The federal government, particularly through the energy supply and demand forecasting expertise assembled at FEA, is in a position to cut down the costs to the states of developing and, through time, refining these techniques. FEA can do this by providing technical assistance in the development of forecasting methods, performing research on generic issues of utility systems economics and by serving as a clearing house for the sharing of information and experience.

In addition to providing these technical services, the Federal government can use its capacity to give grants to induce the adoption of the siting principles I outlined earlier. In my view, it is clearly in the national interest to have all states employ these analytically oriented methods of power plant siting and planning. In this regard, federal financial assistance is a powerful tool to shape state government behavior.

Finally, I believe it is appropriate for the federal government to participate

in power plant siting proceedings in cases where a compelling national interest argues for the presentation of a national perspective. Thus, I can see FEA intervening in power plant siting cases which would clearly establish a national precedent in the weighing of environmental and economic costs and benefits.

Turning now to the bills before the Sub-Committee, each contains elements of the roles I advocate for the states and the federal government in power plant siting. However, both tend to overdevelop the role and authority of the federal government in the power plant siting process.

Title VIII of HR 2633 is particularly ill conceived. Section 803 calls for a national energy facility siting report which apparently is to be FEA's fix on national energy facility needs. The prescription for this process is unrealistic. It calls for the development within one year of a forecast, down to the company service level on a nationwide basis, for a variety of energy facilities and sites. Even with the continuing refinement of the Project Independence Energy forecasting model, the development of a forecast at that level of detail is not likely to be completed within a year. Further, the factors Section 803 mandates for consideration in the forecast tend to ignore the integration of conservation measures which will affect energy demand and which will also influence the optimum supply plan. In short, section 803 sets out a monumental effort at national energy and economic planning with the clear implication that the numbers derived from this effort will become the national energy development goals down to individual company service territories. I don't argue that it is not worthwhile to have such forecasts, but I question the need at this point to set its determinants

through legislation as well as the unrealistic time frame for "The report".

If section 803 is overly ambitious, and perhaps not needed, section 804 proposes the worst type of federal involvement in the facility siting process. In effect, it requires the states to develop a facility siting procedure and submit it for approval to the FEA Administrator. If the Administrator does not like it he can send it back for reworking and resubmittal. This process can go on until a plan acceptable to FEA is at hand. While this section would seem only to require a certain national standard and give FEA the power to determine and enforce it, it is also quite possible that this mandatory plan review and approval process can be used to force upon the states the conclusions of the national energy facility siting report, and, at a minimum, seems to substitute the wisdom of a few federal bureaucrats for that of state regulatory and legislative bodies. I do not argue that state siting authorities are inherently smarter than federal energy officials, I merely point out that section 804 appears to me to prepare the way for unnecessary federal involvement with no real guarantee that a better siting process will result than that emerging already under state initiative. As pointed out earlier, there are important roles for FEA to play in improving the facility siting process, but they don't require a capacity to dictate the substance and process to the states.

Other sections of HR 2633 are more in keeping with a sensible federal program in the facility siting area. Section 806 encourages regional planning through interstate compacts and section 807 establishes a mechanism for coordination among federal agencies in the environmental and economic review process.

HR 12461 is a much more interesting bill, I will restrict my comments for the moment mainly to those sections on facility siting inasmuch as I have not had sufficient time to assess in detail the implications of Titles II, III, and IV.

Nevertheless, let me make a few observations which might be useful in consideration of these sections:

First, section 103(10) defines "state regulatory authority" as any state agency which has ratemaking authority. This definition should be broadened to include any state agency which has rate making and/or facility siting authority. In some states, and California is an example, the economic analysis called for in titles II and III, is conducted by the siting authority on some issues, by the rate making authority on others, and in some instances jointly.

Section 206 proposes to extend the programs of Title II to "covered public systems", defining these as state and federal agencies. Unless I am misreading the definitions in this bill, this would not extend coverage of Title II to municipally owned utilities. In California, approximately forty percent of the state's electricity is generated and sold by municipally owned utilities. The rates for these utilities are set by elected directors of by city councils.

Section 308 establishes an office of Public Counsel in the FPC. I strongly support this concept. The California Energy Commission has a Public Advisor appointed by the governor for a three year term upon the recommendation of the Commission. One difference I wish to draw to your attention is that the Energy Commission's public advisor does not represent any party in Commission proceedings. It seemed to us that to represent one party would unduly favor

a certain point of view, thus creating a disability for other members of the general public whose interests might not be so favored with public advocacy. Instead of public advocacy, other forms of assistance and advice are made available to the public by the public advisor.

In considering title V, on site planning, I must express my reservations regarding a legislative mandate to the FPC to collect utility forecasts and supply plans from every utility in the country generating power from plants of 200 megawatts or more. It would seem to me more profitable for the FPC or FEA to organize a program to assist states in the making of forecasts and then cooperatively aggregate the data for national and regional projections. This mutual assistance can be achieved through federal-state contractual agreements.

On another matter of seeming minor detail, the time tables and data requirements in section 501(a) are slightly out of synchronization with California law and regulations. If section 501(a) became law, California utilities would have yet another set of reports to file and would legitimately have a right to complain about the appetite of each government agency for customized reports. Since under section 501 the states will continue to regulate power plant siting, the burden of a different federal forecast report is difficult to justify and the added administrative cost will surely be passed on to the ratepayer. The solution I suggest is a more aggressive cooperative federal-state effort to make and collect forecasts. If such an effort fails in the next year, perhaps legislation similar to section 501(a) would then be appropriate.

In section 501(c) the FPC would by rule designate electricity planning regions, set up a regional council which would review the long range plans for bulk power

facilities derived from the filings in section 501(a).

No one can argue with the principle of regional coordination, and I do think such coordination is valuable but again, I have reservations about mandating the process through federal law. First, I can foresee great difficulty for the FPC in determining the coordinating areas. The rule making proceeding is quite likely to turn into a messy political squabble. As in my argument against FEA approval of siting procedures for each state, I am not convinced that FPC commissioners can delineate the commonalities necessary for a coherent regional electric planning grouping. Frankly, enough mutual dependencies exist between states for energy resources that natural groupings do occur and "energy protocols" covering a variety of fuels and derived energy forms such as electricity are emerging.

Finally, effective regional planning requires staffing and finances. Section 501(d) does not mention these requirements at all, suggesting that consideration of the actual implementation of the regional planning has not progressed beyond the conceptual stage.

Section 502, like section 807 of HR 2633, sets up a mechanism for coordination of federal approvals and environmental reviews. This is a very laudable provision.

Both of these bills have numerous other provisions for restructuring the utility regulatory field which I would be happy to comment on in response to questions. In closing let me thank you for affording me an opportunity to offer these ideas for the subcommittee's record, and I look forward to cooperating with you in any further development of legislation in this area.

STATEMENT OF

FREDERICK W. MIELKE, JR.

VICE PRESIDENT AND ASSISTANT TO THE CHAIRMAN
PACIFIC GAS AND ELECTRIC COMPANY

BEFORE THE

SUBCOMMITTEE ON ENERGY AND POWER

OF THE

HOUSE INTERSTATE AND FOREIGN COMMERCE COMMITTEE

April 8, 1976

STATEMENT OF FREDERICK W. MIELKE, JR., VICE PRESIDENT
AND ASSISTANT TO THE CHAIRMAN, PACIFIC GAS AND ELECTRIC
COMPANY BEFORE THE SUBCOMMITTEE ON ENERGY AND POWER OF THE
HOUSE INTERSTATE AND COMMERCE COMMITTEE ON
SECTION 502 OF H.R.12461

I am Frederick W. Mielke, Jr., Vice President and Assistant to the Chairman of Pacific Gas and Electric Company. My Company serves gas and electricity to most of Northern and Central California.

I am appearing today on behalf of the Edison Electric Institute, which is the principal trade association for the nation's investor-owned electric utilities. I would like to comment on Section 502, the Facility Siting Section, of H.R.12461.

Section 502 has the worthy objective, among other things, of expediting the construction of bulk power facilities requiring Federal approvals. It fails, however, to direct itself to the principal cause of regulatory delays in the construction of needed new electric power capacity.

The most critical sources of regulatory delay today are the numerous special-purpose Federal statutes, each enacted with a single worthwhile objective, but which together have become a Gordian knot of regulations and procedures required at both Federal and state levels.

Examples of Delay-causing Laws and Procedures

There is the Clean Air Act with its court-ordered requirement for no significant deterioration of the air -- with its requirements for new source performance standards, which as interpreted by

the EPA go beyond current technology and make no allowance for regional, local, and transient conditions -- with its allowance of state standards more restrictive than Federal standards -- and with its allowance of state implementation plans going beyond environmental needs and imposing inflexible procedures for reasonable revision.

There is the Federal Water Pollution Control Act, pursuant to which rigid and unnecessarily restrictive regulations have been adopted due, at least in part, to the lack of cost/benefit analyses being made before extensive and costly installations of questionable environmental value are mandated.

There is the Coastal Zone Management Act which, as now administered, permits the development of state plans that can arbitrarily foreclose extensive areas of coastline to the siting of power plants, and then requires that an applicant for a Federal permit or license comply with the state coastal plan.

There is the Atomic Energy Act, which causes delays in building nuclear plants because of its very long and cumbersome licensing procedures.

The list of these single purpose acts is long. In his September 23, 1975 report to Congress on the "Problems in Licensing Hydroelectric Projects" the Comptroller General of the United States noted that many laws placed constraints on the Federal Power Commission's ability to act expeditiously, including such acts as the Fish and Wildlife Coordination Act (16 U.S.C. 661), Wild and Scenic Rivers Act (16 U.S.C. 1271), National Trails System Act (16 U.S.C.

1241), Wilderness Act (16 U.S.C. 1131), Anadromous Fish Act (16 U.S.C. 756), National Historic Preservation Act (16 U.S.C. 470), National Forest Multiple Use Act (16 U.S.C. 528), Water Resource Planning Act (42 U.S.C. 1962), and Bureau of Outdoor Recreation Organic Act (16 U.S.C. 4602), among others. There are more. The list just varies with the kind of plant involved.

And overall, there is the National Environmental Policy Act, which as implemented by the Council on Environmental Quality and other Federal agencies and interpreted by the courts, has made the preparation and review of environmental impact statements a costly and time consuming process that surely must go beyond the original intent of Congress.

Such controlling and restrictive Federal laws, requiring clearances from many agencies, such as the Corps of Engineers, Bureau of Land Management, Forest Service, Federal Aviation Agency, and so forth, are a main source of regulatory delay and frustration.

Confronting us now is still another problem which could cause irreparable harm to the nation's nuclear energy program. That is the proliferation, in various forms, of nuclear moratorium measures at the state level. Although we believe they are in most instances unconstitutional, they could, if enacted, give rise to litigation which would cause further delays in the planning, siting, and construction of nuclear power plants. We believe that Congress should act promptly to prevent such delays by more carefully stating the Federal preemption of regulation in this field.

Authority of This Committee

We recognize, of course that this single Committee of the House does not have jurisdiction over all the subject matter to which I have referred. Yet we believe that it is important that each Committee in the Congress recognize the overall impact caused by the various special-purpose acts with which it deals.

The Facility Siting Proposal of H.R.12461

Turning to the provisions of Section 502, it attempts to address some of the Federal procedural problems by requiring that the Federal Power Commission act as a coordinator and expeditor of the various Federal actions needed to license or otherwise approve energy facilities. We have no quarrel with the concept that coordination and expeditious processing of required Federal authorizations is necessary. But it should be noted, first, that everything this section requires the FPC to do could simply be required of the various agencies involved by Presidential executive order without legislation, since all of the individual agency procedures are left intact.

Second, it might well be questioned whether the Federal Power Commission is equipped to handle the task this bill would assign to it. In the Comptroller General's report to Congress on hydroelectric licensing to which I referred earlier, he points out that the Commission's backlog of applications had grown from 219 in June of 1963 to 502 in December, 1974, and that the average age of the pending applications was five years. In commenting on the

Comptroller General's report, then Commission Chairman Nassikas said:

"Thus, given the limitations upon us and the realities before us, we cannot realistically hope in the short term to move the bulk of our pending cases substantially faster than we are now doing. There are many reasons why this is so, the most important of which are personnel and funding constraints, added statutory responsibilities, and the increase not just of cases but of contested cases."

It is questionable, therefore, that merely adding to the Commission's other "statutory responsibilities" will expedite either plant siting or the licensing of necessary hydroelectric projects.

One of the most harmful provisions of Section 502 is that it requires that all Federal authorizations be obtained before the start of construction. This provision is even more restrictive than existing practice and would lead to intolerable delays. No amount of coordination and expedition could overcome the delay this provision would impose. It should be deleted from the bill.

Also, it should be noted that the detailed additional Federal procedures proposed by this bill, unless very carefully administered with adequate funding and personnel made available to all agencies which would become involved, could be counter-productive by simply adding another layer of delay-causing Federal procedures.

The Institute believes, however, that much could be accomplished by a relatively simple provision authorizing some less burdened and better funded government agency to act as an expeditor and coordinator of Federal agency procedures for energy facilities. Perhaps the Federal Energy Administration would be such an agency, or

the Nuclear Regulatory Commission in the case of nuclear generating plants. In any event, we believe that this authorization should be provided as soon as possible, either by executive order or by a simplified version of Section 502.

Kind of Legislation Needed to Expedite

Such action alone, however, is clearly not enough. The root causes of regulatory delay can be attacked only by dealing substantively with the numerous single-purpose acts that in the aggregate tie up the building of new facilities. There are two ways of dealing with these laws: One is by amending each single-purpose act to remove language which is needlessly restrictive and to insert language that mandates a balanced approach to energy-environment matters. The other is by establishing a single one-stop Federal siting agency, with adequate funds and staff, that would take jurisdiction where Federal approval of a project is required. Such an agency would use one application form; it would hold one hearing in which all interested federal agencies and parties before the Federal agencies would participate; and it would exercise authority to modify the requirements of other Federal agencies when found to be in the public interest to do so. This would be the one-stop approach which we would like to see mandated for Federal action.

Whether or not such legislation is enacted, it would be in the national interest to enact emergency-type legislation under

which the President, after finding that a particular energy facility is urgently needed to meet national energy requirements, could direct an appropriate Federal agency -- for example the Nuclear Regulatory Commission in the case of a nuclear plant -- to assert jurisdiction, consider the views and recommendations of the Federal, state, or local agencies involved, and then license the facility expeditiously, granting waivers of particular Federal, state, or local laws and regulations if found to be necessary in the public interest.

Before concluding, I would like to offer for the record a copy of the Edison Electric Institute's position paper on plant siting. This paper has been reviewed by several committees of the Institute in recent months and was approved in January of 1976 by the EEI Executive Committee.

Summary

In summary, although the objective of Section 502 of H.R. 12461 is positive, it falls far short of coming to grips with the core problems which must be solved if we are to expedite the construction of electric power facilities and meet the energy needs of the nation. We urge consideration of the kinds of legislation which I have suggested in this statement as a necessary and desirable adjunct of a national energy policy.

ATTACHMENT
(EDISON ELECTRIC INSTITUTE'S POSITION PAPER
ON PLANT SITING)

ATTACHMENT TO STATEMENT OF FREDERICK W. MIELKE, Jr.
VICE PRESIDENT OF PACIFIC GAS AND ELECTRIC COMPANY
BEFORE THE SUBCOMMITTEE ON ENERGY AND POWER OF THE
HOUSE INTERSTATE AND FOREIGN COMMERCE COMMITTEE
APRIL 8, 1976.

1976 PLANT-SITING STATEMENT

Finding appropriate sites for industrial plants is a sensitive problem in many parts of the country. Population pressures, local land-use practices, allocation of water resources, and environmental quality goals are among the factors which have contributed to the complexities of the problem in some areas.

The electric utility industry, along with other industries, has been feeling these pressures, but the nation's need for a continuing supply of electric energy adds a special dimension to the problem of siting electric power facilities.

Energy demands in this country are continuing to grow. Electric utility companies are able to meet their share of this growing demand by long-range planning, large construction programs, and development of new technologies.

An increasing number of agencies at local, state, regional, and Federal levels have concerned themselves with matters related to the siting and operation of major electric power facilities. The result has been a proliferation and lengthening of administrative procedures, aggravating other factors which have contributed to construction delays. Lead times for building new generating facilities have been steadily lengthening so that today the time from date of commitment to time of operation for a major fossil-fueled generating plant can run up to eight years, and even longer for a nuclear power plant, when only four or five years are actually required for site construction. The unnecessary delays add significantly to cost burdens on consumers.

Procedures for resolving questions in connection with the siting and licensing of electric power facilities can and should be improved. Many state governments have recognized the need to expedite resolution of power plant siting questions by providing special procedures for certification of power plant sites.

Power plants are subject to comprehensive regulation for air and water quality under existing Federal statutes applicable to all industry. Radiation protection standards for nuclear power plants are provided under the Atomic Energy Act of 1954, as amended, and the courts have held that the Federal government has jurisdiction over regulation of nuclear safety. Environmental questions pertaining to land-use planning and aesthetics are matters primarily of state concern, although the Coastal Zone Management Act requires the states to undertake comprehensive planning, including siting of power plants, under Federal guidelines, in coastal zone areas. The National Environmental Policy Act of 1969 provides a national overview wherever a major Federal action is involved.

Electric utility companies, through regional Electric Reliability Councils, are also required to file long-range plans with the Federal Power Commission under a rule adopted on April 10, 1970, in Docket R-362 and with state regulatory agencies in many areas.

In view of the many reviews which already apply to the siting and licensing of electric power facilities, it is apparent

that additional environmental controls are not needed. If any additional Federal legislation is to be considered, it should be aimed at eliminating duplication and expediting the decision-making process, both within the Federal government and at the state and local levels, and at speeding up judicial review. A clear statement of policy by the Congress recognizing the necessity for expedited action in order to achieve national energy goals would provide a needed stimulant in this direction.

In summary, any Federal legislation or rule-making related to power plant siting should recognize the nation's critical need for a continued supply of reliable electric energy, and the achievement of energy self-sufficiency, and should be primarily directed at expediting the process of resolving questions raised about major power facilities so that these facilities may be expeditiously planned and built.

To protect the public interest, to simplify the plant-site review process and eliminate duplication, and to avoid compounding existing problems of delay in resolving power plant siting questions, the Edison Electric Institute believes that any legislation, state or Federal, or regulatory role changes on this subject should adhere to the following principles:

1. Any bill or rule should recognize the need for a balanced approach to meeting energy requirements and meeting environmental responsibilities and should be aimed at finding this balance in a timely manner.

2. Any bill or rule should seek to eliminate and avoid duplicative reviews by the permitting agencies and, to the maximum extent possible, should place responsibility for environmental assessments at the state or regional level.
3. Any bill should require all permitting agencies to recognize the national and regional interest in a reliable power supply and in achieving energy self-sufficiency.
4. The foregoing objectives can be achieved by adopting a "one-stop" and non-duplicative licensing approach at the state and Federal levels. This would involve a single approval process designed to arrive at a conclusive decision with respect to all permits and licenses required for a project, with the avoidance of tandem approval steps. This process could be implemented, among other ways, by expanding the "lead-agency" concept or by establishing one-stop licensing agencies at both state and Federal levels and coordinating their proceedings. Care must be taken that such procedures actually speed licensing. In this connection, early site approval in advance of design or safety approval should be encouraged.

5. Any bill or rule should include provisions for expediting the administrative process. Time limits for administrative action, whether fixed by statute, by a lead agency, or by individual permitting agencies, should be followed. Any postponement of such time limits should be predicated on unanticipated difficulties in resolving issues of major public importance and should be for the minimum additional time necessary to resolve such issues.
6. Any Federal bill which would supersede existing state authority for power plant site approval should be limited to expediting delayed facilities by providing procedures for resolution of controversies. It should not impose further Federal requirements on non-controversial facilities. An example of such a procedure would be an optional special Federal certification process open to resolve questions on delayed major facilities on request.
7. Once site approval has been obtained, there should be provision for broad powers of eminent domain and for use of public lands.

In addition to the preceding principles, any proposed legislation or rule relating to plant siting and environmental values should apply equally to governmental and non-governmental power suppliers. It might also include a provision for emergency procedures that, in special situations, would make it possible to move very quickly to obtain necessary governmental approvals for construction of needed generation or transmission capacity.

STATEMENT OF
WALTER J. MATTHEWS, PRESIDENT
NATIONAL ELECTRIC RELIABILITY COUNCIL
AT HEARINGS ON H.R. 11461
BEFORE THE
SUBCOMMITTEE ON ENERGY AND POWER
HOUSE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE
WASHINGTON, D.C.
APRIL 4, 1974

Mr. Chairman, my name is Walter J. Matthews, President of the National Electric Reliability Council (NERC). With me are G. S. Walters, Manager Electrical Operation, Wisconsin Electric Power Company and Chairman of the NERC Technical Advisory Committee, and V. C. Brown, Administrative Manager of NERC. We appreciate the opportunity to appear before this Committee to express our views on the planning provisions proposed in H.R. 11461.

NERC consists of nine regional reliability councils whose memberships comprise essentially all of the electric power systems in the United States and the Canadian systems in the provinces of Ontario, British Columbia, Alberta, and New Brunswick.

The function of NERC is to augment the reliability and adequacy of bulk power supply of the electric utility systems in North America. By "reliability" we mean preventing cascading trippings and widespread power outages. By "adequacy" we mean providing sufficient generating capacity to meet the electric peak load requirements of all customers, plus being able to supply all their electric energy requirements.

In 1963, there was considerable concern in the industry about the reliability of the electric power supply network in the United States because of the widespread blackouts which occurred in 1963 and 1967. Various legislation was proposed with the stated objective of preventing any such cascading outages in the future. The officers of NERC testified a number of times before the House Subcommittee on Communications and Power and explained the actions taken by the total electric utility industry, on its own initiative, to assure that

such incidents would not occur again. They stressed that reliability cannot be legislated; it must be created by planning and building a fully coordinated electric system. Fortunately, the Congress accepted that premise.

The only way to provide a reliable power supply is through effective coordination of the planning and operation of the system. This has been accomplished in North America by the creation of nine regional reliability councils, which in turn comprise NERC. These regional councils review on a continuing basis the individual system plans for the future and evaluate them to determine whether the facilities proposed are compatible and the system is balanced. If not, the plans are revised until they meet the necessary criteria. Each regional council submits to the Federal Power Commission annually on April 1 the coordinated plans for the bulk power supply of the region for the ensuing ten years, with additional projections for an additional ten years.

Electricity knows no boundaries -- state lines, areas, or even regional council borders -- so additional coordination between regions is needed and is accomplished through interregional groups formed by the regional councils. Still further coordination is supplied by a NERC Task Force which has developed a data bank of all necessary characteristics of the bulk power facilities in the interconnected network. Through computer programs, the Task Force has performed multi-regional studies to appraise the capability of the network to transfer power between and among the regional councils under various emergency conditions and to identify any weaknesses. Studies have been conducted of the 1973 and the 1978 network, and studies are presently underway for the network as it is planned for later years.

One of NERC's principal working groups, the Interregional Review Subcommittee, has stated that three of the essential ingredients of a reliable

and adequate electric power supply are:

- a) Load forecasts made with reasonable confidence;
- b) Timely installation of new generating plants; and
- c) A properly coordinated transmission network.

In the uncertain climate in which the electric utility industry is today operating, it is most difficult to provide these three ingredients.

We believe there is a distinct parallel between the circumstances addressed by H.R. 12461 and the reliability legislation which was proposed in those earlier years. Power system planning is a very complex function, and planning a reliable and adequate bulk power supply system cannot be legislated. While many scientific tools are used in the planning process, there are no precise answers. The many factors involved must be weighed and balanced, and the final plan is ultimately determined by good judgment of experienced and highly qualified experts in the industry.

If the present method of planning and coordinating the bulk power supply in North America is to have an "Area Planning Council" superimposed on the utility systems as proposed in H.R. 12461, it would destroy the successful work of individual utilities, their respective regional councils, and NERC. Furthermore, it would place in the new "Council's" hands authority without responsibility. The utilities would lose the authority necessary to perform their legal obligations to provide adequate electric power in their franchise areas, and reliability would obviously be severely degraded.

At the very least, this new planning "Council" would be governed by voting members whose principal responsibilities are to political bodies but who would have authority over the highly technical process of planning and constructing electric bulk power supply systems.

The report of the coordinated regional council plans referred to above are public documents open to review by any interested party. While the public is entitled to be aware of future plans, and their input considered in the formulation of the plans, the public must not be a part of the detailed planning process, either directly or through their elected representatives.

One of the most serious problems the utility industry presently faces is the long lead times required to construct new facilities. These lengthening lead times are due principally to an active interest on the part of small but vocal segments of the general public and are also due to indecision on the part of governmental bodies. In efforts to reduce that portion of lead times associated with the issuance of certificates of authority, an increasing number of states have enacted long-term planning legislation. We believe that provisions of H.R. 12461 would increase rather than decrease lead times.

The present procedures used by the electric utility industry in the planning process have undergone many changes in recent years, and it has proven that the process has been capable of adjusting to changing circumstances. Without a doubt there will be future changes, but the industry requires the flexibility to continue adjusting without being further hampered with rigid legislation.

I would like to emphasize that utilities have a compelling self-interest to assure that the network of bulk power supply is fully coordinated, and to assure that each system's facilities are compatible with all other facilities. Preserving the planning flexibility of the electric utility industry is the best way to assure that the bulk power system in the United States will continue to be the most reliable and adequate power system in the world.

We appreciate the opportunity to present our views on the planning provisions proposed in H.R. 12461.

TESTIMONY
OF
DR. JAMES E. JUST
BEFORE THE
SUBCOMMITTEE ON ENERGY AND POWER
OF THE
HOUSE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE
APRIL 8, 1976

My name is Dr. James E. Just. I am employed by the energy consulting firm of Donovan, Hamester and Rattien, Inc., as a Senior Policy Analyst. The Committee is to be commended for holding hearings on the important topic of electric utility regulation. My credentials as a witness on this subject include the fact that prior to my present position, I was responsible for a major contract at the Mitre Corporation on energy facility siting and related utility problems for the National Science Foundation. My graduate work was in modeling the interaction of new energy technologies with the economy and the environment. I hold a doctorate in Electrical Engineering from MIT.

During the two year NSF contract, my Group both supported the National Science Foundation's Advisory Committee on Energy Facility Siting and performed small studies and held workshops on various problems associated with siting. These studies included legal and institutional problems of siting, quantitative comparisons of the environmental and social problems of coal and nuclear generation, technical problems of improving the economics of generating electricity, financial problems of the utilities, and others.

Some of the major conclusions of these studies were the following:

- (1) The problem of energy facility siting is a state/regional problem. By this I mean that uniform national policies can be very useful but the differences in resources, lifestyles, needs, etc. between states and between regions of the country are so great that the implementation of any particular policy, such as siting or rate making, should be left to the states and regions. I understand that the states are the only official government entities between the local governments and the national one, but it must be recognized that many problems (particularly those dealing with utility regulation and similar energy related problems) are inherently regional in nature.
- (2) The regional and national nature of the energy supply problem becomes more acute as the discussion shifts from electric utilities, which serve primarily local or state areas to that of refineries or energy centers or coal mines which because of the economies of scale inherently serve a larger area than just the locality or state in which they are located. The standard examples of this behavior would be mining Montana coal to supply eastern energy needs. The country is becoming more and more interconnected in terms of the energy supply system. Hence there is more legitimate federal and regional

interest in State regulation of energy.

- (3) It is extremely difficult for outsiders to understand, let alone represent, the interests of parties in the negotiation process. A standard exercise in a labor relations course is to break the class up into many sets of labor and management teams, give each set of teams the same background material and ask them to negotiate a settlement. The variation between the settlements of the different teams at the end of this exercise is enormous. The point of this exercise is to illustrate the difficulties of imposing settlements on conflicting parties. What each party views as valuable is conditioned by their perceptions, the history of past negotiations and many other factors.

Rather than to continue to list many conclusions of our study, I would now like to comment generally on the siting and rate making portions of the two bills under consideration here today. (H.R. 2633 and H.R. 12461).

In general, I think that it is too early to begin implementation of marginal cost pricing schemes (other than those that already exist in the form of differential seasonal rates). More studies are needed of the impact of these rate schedules on consumer behavior. The Federal Energy Administration has a number of experiments underway which are designed to get at the short run residential price elasticities. By examining foreign experience with peak load

pricing, it may be possible to estimate econometrically the long term residential, industrial and commercial seasonal time of day price elasticities. These estimates are very important to evaluating the cost effectiveness of marginal cost pricing schemes. There are many different conceptions as to what the purpose of marginal cost pricing schemes are. These range from the economist's concept of efficient pricing of commodities to the concept of reducing the rate of electricity growth to the concept of reducing the capital needs of the utilities. The results of experiments and studies should be sorted out and the purpose of marginal cost pricing implementation should be identified before we attempt to implement these ideas on a wide scale.

I am opposed to the concept of lifeline electric rates, i.e., the providing of a small essential quantity of electricity at bargain prices as a means of increasing the welfare of the poor. First, it is not at all clear that the smallest users of electricity are all poor. Rich bachelors may just as easily be subsidized under this scheme as the poor (in general of course this would not be so). The second reason is that I do not think the electric utilities should be used as a welfare instrument. We have various welfare agencies that are set up for this precise purpose which would allow the more precise targeting of relief funds to pay for higher electric bills among the poor.

The capital availability problem that the electric utilities have experienced in the recent years can be traced to their greatly reduced earnings resulting from higher fuel prices, higher interest

costs, inflation and regulatory lag among others. Alleviating this problem will require yet higher electricity rates, which will pain the consumer even more than presently. Whether marginal cost pricing will in the short run or the long run reduce (or increase) the need for capital by the utilities is uncertain at this point.

HR12461 could be improved, in my opinion, by setting an 18 month guideline for completion of the state process similar to that set up for federal agencies. If the siting process can be reduced from its current 8 to 10 years to 5 or 6 years, there will be enormous savings in interest and escalation costs to the utility and hence to its customers. In addition, the utility would be able to respond more quickly to changes in the forecast electric growth rate and this would enable the utility to reduce its reserve margins. This, of course, results in additional savings to the consumer.

HR2633 could be improved, in my opinion, by requiring the establishment of Regional Planning Commissions to coordinate utility expansion plans.

In summary, the key problem is how to manage the siting process in a "socially optimal" manner. I think the best portions of both bills in the siting area include:

- (1) State energy facility siting management plans that set guidelines of 18 months for completion of the process;

- (2) A similar lead agency concept for the Federal agencies with an 18 month completion guideline; and
- (3) A Regional Planning Commission of utilities and states to coordinate expansion plans.
- (4) The focus on all major energy facilities rather than just electric utilities.

Two possible improvements in the siting process that deserve more study are:

- (1) Predesignation of sites under which a commission certifies a specific site as acceptable for some class of energy facility (e.g. a boiling water reactor of under 600 MW that meets or exceeds a design "envelop") in advance of actual construction or immediate need.
- (2) States or regions being responsible for providing acceptable sites to electric utilities within their borders. The State of Maryland currently utilizes this procedure.

I hope my observations and thoughts have been of some use to you today.

STATEMENT OF THE HONORABLE RICHARD L. DUNHAM
AND
ROGER D. FELDMAN

STATEMENT OF
RICHARD L. DUNHAM, CHAIRMAN
FEDERAL POWER COMMISSION
HEARING BEFORE THE
SUBCOMMITTEE ON ENERGY AND POWER
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE
UNITED STATES HOUSE OF REPRESENTATIVES

APRIL 8, 1976

Mr. Chairman and Members of the Committee, I welcome this opportunity to testify on H. R. 12461, the "Electric Rate Reform and Regulatory Improvement Act", and related measures. Most of this statement will be concerned with H. R. 12461, which I will refer to as "the Act". I will be discussing primarily Titles III and V of the Act, since these Titles are concerned in large part with Commission responsibilities, although I will comment on certain aspects of Title II as well.

TITLE II. UTILITY RATE REFORM

Although most of my comments on Title II of the Act will be limited to those sections which directly involve the Federal Power Commission, I would like to make a general statement concerning the overall impact of this Title. It is the Commission's opinion that many of the changes in rate design and load management techniques mandated in various parts of Title II may well improve the performance and lower the costs of the electric utility industry. It appears to us, however, that Title II mandates wholesale change at a time when the effects of such changes have not yet been thoroughly studied. Specifically, the Commission would raise the following points:

1. Title II is far too detailed in its approach to the problems of rate design and load management techniques. In the Commission's opinion, it would be unwise for Congress to require the state to adopt a specific and strictly uniform methodology for dealing with these matters. It may well be appropriate for Congress to set regulatory goals which the state strive for, but the Commission does not believe that the Federal Government should so thoroughly restrict the freedom of the state to respond to their own problems with individualized solutions.

2. At the present time, there are a number of efforts underway to determine the desirability and effectiveness of the kind of regulatory changes which Title II proposes.

Studies and experiments in rate design and load management technique are being undertaken by many states, as well as by the Federal Energy Administration, the National Science Foundation, the Edison Electric Institute, the Electric Power Research Institute, the National Association of Regulatory Utility Commissioners, and other institutions.

These efforts are designed to elicit information which is absolutely necessary to informed decisionmaking in these areas. The Commission believes that it would be premature to make the kind of sweeping changes which are proposed by Title II while these studies are still in progress.

3. Title II would usurp state regulatory authority at a time when many state commissions are attempting to improve rate structures in a wide variety of ways. This would essentially end such efforts and tend to establish the Federal Government, rather than the states, as the prime source of regulatory authority. Such a course would encourage litigation designed to force the states to comply with Federal requirements, and would greatly reduce the role of state commissions in improving the performance of their regulated utilities.

Section 205--Cost of Service Determination

This provision requires marginal cost pricing in the sense that customer charges shall reflect the incremental cost of daily and seasonal peak loads, voltage levels, and time of use. Also each electric utility is required to gather data on many factors affecting costs. They are also asked to make forecasts, state assumptions, make computations of costs and alternative means of supplying load for a ten-year period. The FPC is to prescribe the "methods, procedure and format to be employed by each electric utility" in presenting all of this material. The Commission is empowered to exempt an electric utility from gathering all or part of the data only under the exceedingly vague condition that "gathering such information is not likely to assist in attaining the purposes of this Act."

The Commission opposes this section for essentially the reasons advanced in my general comments on Title II. Section 205 would, in the Commission's judgment, remove from state regulation decisions of primarily state concern, and substitute detailed Federal standards, based upon items of information prescribed by the Commission. This would impair further progress by the states in this area, and introduce an unnecessarily large Federal presence into the affairs of the states. It could also impose a considerable un contemplated burden on the FPC in managing this flow of information.

Section 209--Enforcement

Section 209 is the major provision of Title II pertaining to the FPC. Section 209(a)(1) requires the Commission beginning two years after the date of enactment to enforce all the provisions of Title II not enforced by state regulatory authority. The Federal Power Commission is not anxious to substitute its regulation for that of state public utility commissions. Regulation of the retail sale of electric energy has traditionally been a state concern. The Commission does not believe such a far-reaching extension of the Federal role in this area is warranted. The Commission has no significant experience with the regulation of retail rates, and believes that Federal administration of the requirements of Title II would tend to create conflicts with the exercise by state commissions of their remaining regulatory authority.

Section 209(f) provides that no contract between a Federal agency and an electric utility for sale of electricity for resale may be inconsistent with Title II. This requirement would seem to conflict with Section 202,

which restricts the application of Title II to sales of electric energy for purposes other than resale.

In most cases, the transaction described in Section 209(f) would be in interstate commerce and the "electric utility" would be a "public utility" within the meaning of the Federal Power Act, and thus the contract would already be a rate schedule subject to Commission jurisdiction. The Commission does not see the rationale for singling out these particular sales for resale as subject to the requirements of Title II.

Title III. Economic Regulation of Bulk Power SupplySection 301--Joint Use of Bulk Power Facilities

Section 301 of the Act would amend the Federal Power Act to require the Commission to make new, increased or retired capacity in bulk power supply facilities of a jurisdictional public utility available to other utilities.

The Commission's power under present law to compel a utility to render service or to provide generating capacity to another is limited. This is true with reference to all means of acquiring power, such as construction, ownership participation, by the purchase of kilowatts, or so-called "unit purchase", or by the purchase of firm service or system service.

Thus, Section 202(b) of the Federal Power Act empowers the Commission to order interconnections and the sale or exchange of energy under certain circumstances but states that "the Commission shall have no authority to compel the enlargement of generating facilities for such purposes. . .". Section 207 of the Power Act, dealing with adequacy of service, contains the same proviso.

The only other Commission power to order the provision of generating capacity to utilities is found in Sections 205 and 206 of the Power Act, prohibiting unduly discriminatory or preferential rates or practices. It is possible that the Commission will be called upon to rule on these questions in pending cases, and, therefore, I cannot discuss such points in these hearings.

Speaking generally, I would note that the concept of joint utilization of bulk power facilities presents certain advantages. For example, such an approach could improve the efficiency of planning and operating bulk power supply facilities, particularly for small systems which may now be unable to build facilities of optimum size. However, we believe that Section 301 may not be the best way to attain that goal. It is not clear under the section whether the Commission use could mandate the construction or enlargement of facilities or whether the Commission's authority would relate only to excess capacity in generation and transmission facilities. As an example, could the Commission order a public utility to sell part of its current generating capacity if such action

would force the utility to construct new capacity in order to meet its own loads? And if the Commission could order the construction of new capacity for other utilities, could it further require the constructing utility to bear all or part of the cost? If Section 301 intends to provide this kind of authority, it would seem to make the Commission the central planning agency for all utilities, since all plans for bulk power facilities would presumably be subject to change by its direction. This would mean the substitution of governmental decisionmaking for that of utility management.

If Commission authority were limited to excess capacity in generation and transmission facilities, the intent of this section could be largely offset by the planning strategies of the utilities, since presumably they could plan their systems in such a way that very little excess capacity would be available. Unfortunately, this might result in something less than optimum efficiency in planned expansions of bulk power supply.

Mandatory joint planning on an area basis under Commission supervision would mean a fundamental change in the character of utility planning and in the role played by the Commission. If such a fundamental change is intended, the language of

Section 301 should be made more specific so that there is no doubt as to its meaning and purpose.

We believe the present voluntary system is working well, and adapting to new conditions, so that these changes are probably not needed.

Section 302--Access to Transmission Capacity

Part (a) of this section would include as one of the goals of Section 202(a) of the Federal Power Act the assurance of "maximum competitive opportunities for the purchase and sale of electric energy at wholesale at the lowest possible cost." Maximum competitive opportunity may well clash with the objective of minimizing costs. On the other hand, Section 202(a) in its present form states the policy objective of "assuring an abundant supply of electric energy with the greatest possible economy. . ." The assurance of competitive opportunity could result in the construction of several transmission lines to a load center by several suppliers. This could well have a resource cost to society above the "lowest possible cost".

Part (b) of Section 302 would give the Commission authority under certain circumstances to direct a jurisdictional public utility to provide wheeling service or to engage in pooling or coordination. There is some precedent in the case law for the proposition that the Commission already has authority to direct coordination under Section 202(b) of the

Federal Power Act. Gainesville Utilities v. Florida Power Corporation, 402 U.S. 515. It is clear, however, from the legislative history of the Power Act and the cases interpreting it that the Commission has no authority to compel wheeling, Otter Tail Power Company v. U. S., 410 U.S. 366.

The principal effect of Section 302 is to include wheeling ("transmit energy for, provide transmission services or wheeling for") among the items that may be directed by the Commission under the present Section 202(b). Such a provision would enable the Commission, in some cases, to bring about improved efficiency and reliability of service through coordination of facilities planning and operation.

For example, utility A may have or plan excess generation for sale and utility B may wish to buy it. Although the two systems are not directly connected, they are both interconnected with public utility C. If C refuses to wheel, the Act would allow the Commission to direct such wheeling if it makes the findings now required by Section 202(b), namely, that such action is necessary or appropriate in the public interest and that no undue burden will be placed on public utility C thereby. The Commission already has authority to assure that the rate

to be charged for such wheeling service is just and reasonable. Apparently the existing proviso that sales not impair the ability of the utility subject to an order to serve its own customers adequately would not apply.

There is some indication, however, that Section 302 would impose general common carrier obligations upon public utilities. This would create substantial difficulties in light of the fact that transmission facilities are generally planned, designed, and built with specific generation and load centers in mind. The random addition of generation input, and output to other systems, without regard to the long-term plans of the transmitting utility could disrupt existing service, or force the construction of new transmission facilities by the transmitting company.

Considering these conflicting considerations, and conflicting interpretations of the intent of this section, we present no opinion as to the desirability of this section.

Section 303--Continuance of Service

This section would amend Section 202(c) of the Federal Power Act to add the terms "pooling", "coordination", and "wheeling" to the list of services which the Commission could order to be rendered under emergency conditions. It is the judgment of the Commission that such additional language is unnecessary since Section 202(c) as currently written would appear to reach these concepts.

Section 303 would also give the Commission broad powers to allocate curtailments equally between wholesale and retail customers. Since there are currently proceedings before the Commission in this general area, it would be inappropriate for me to comment directly on the merits of this proposal.

Section 304--Prohibition on Pendency of Cumulative Rate Applications

This section would prevent a utility from filing a proposed rate increase with the Commission so long as the Commission "has pending before it for final determination any schedule previously filed by such public utility". Apparently the prohibition against filing new schedules would apply whether or not the pending schedule is an increase, decrease, or some other kind of change, or whether the pending schedule covers a different group of wholesale customers or a different aspect of service.

It is unclear to us what the purpose of this section is. One interpretation could be to improve the regulatory process so as to reduce the regulatory lag or time period between filings and final rate determinations. If this is the intent then this problem might better be addressed by administrative and procedural reforms of the regulatory agencies, Federal or state, rather than the economically punitive possibilities of this section which may deny legitimate, just and reasonable, rate changes either up or down to the utilities or the consumers.

In sixteen electric rate cases concluded by Commission opinions between January 1972, and December 1975, the average time between the initial rate filing and the Commission's opinion was 31 months. While we are taking steps to try and reduce the lag, delays even approaching this magnitude would undoubtedly create severe cash flow and other financial problems for the affected electric utilities, or deny rate decreases to consumers. The Commission opposes this provision.

Section 305--Fuel Adjustment Clause

Section 305 would amend Section 205 of the Federal Power Act by adding a new Section (f)(1), providing that, except in specific circumstances, the Commission could not allow any rate increase unless an opportunity for an evidentiary hearing is afforded prior to the date such increase takes effect. As Section 103(b)(4) of the Act defines "evidentiary hearing" to include the entire Commission proceedings, through and including the decision on a petition for rehearing by anyone, even the most frivolous party, this requirement could mean that companies would be prevented from charging just and reasonable rates until long after the rates were needed. This would be unfair and counter-productive.

The Commission believes that the provisions of Section 205(e) of the Power Act provide an adequate balance on this matter. Under Section 205(e), the Commission may suspend the effectiveness of a new schedule for up to five months, and after a hearing on the proposed change order the refund of any amounts collected which the Commission finds to be unjustified. This allows the Commission to weigh the likely final outcome and the need for immediate revenue, and arrive at a conclusion in the public interest.

The changes in the Act could well lead to the possibility of deliberate delay on the part of parties opposed to an increase, and might cause considerable litigation designed to require immediate Commission action. Even in the best of circumstances, the inability of public utilities to obtain timely rate increases in a period of rising costs could have a disastrous impact on their ability to provide continued service.

Section 305 also adds a new Section 205(f)(2) to the Power Act, sharply limiting the recovery of increased costs by a public utility under an automatic adjustment clause. This section would mainly affect fuel adjustment clauses of public utilities, and in the Commission's judgment this impact would be largely negative. Properly administered, fuel adjustment clauses can accomplish legitimate public interest objectives. They serve to reflect accurately the cost of service, passing through actual increases or decreases in fuel costs. This insures appropriate and timely cash flow to utilities, and can reduce the number of formal proceedings necessary for the regulation of the electric utility industry.

At the present time, there are several thousand individual rate schedules of public utilities on file with the Commission containing fuel adjustment clauses. Commission Order No. 517, issued November 13, 1974, carefully specified a standard format for a fuel adjustment clause, and all public utilities were required to put their clauses into such a format by January 1, 1976. In addition, the Commission has implemented various monitoring programs to ensure compliance with its regulations and to assure that customers are charged no more than actual changes in fuel costs prudently incurred. A series of audits of fuel clauses has shown very minor deviations from proper use of these clauses, and refunds have been ordered to correct those minor errors.

In the rulemaking proceeding which led to the issuance of Order No. 517, the Commission considered and rejected proposals for limiting the percentage of fuel cost changes which could be recovered under a fuel adjustment clause, on the ground that such a provision would partially defeat the very purposes for which such clauses are allowed.

The proposed section would also prohibit any power or fuel purchased from an affiliate of the generating utility. This rule could well lead a company to make higher cost purchases from independent sources, which it could pass through rather than more economical purchases from its affiliates. It would thus defeat its own purpose, and I feel it should be reviewed critically in that light.

A new Section 205(f)(4) of the Power Act would require the Commission to review annually, in an evidentiary hearing, every rate schedule of a public utility which contains an automatic adjustment clause. The Commission also would be required to conduct an annual review and audit of the fuel acquisition practices of the public utility. While an annual review of rate schedules containing automatic adjustment clauses would be feasible, given sufficient staffing, the requirement of an evidentiary hearing, conducted according to the requirements of the Administrative Procedure Act, would be extremely burdensome. Some 150 companies have one or more rate schedules containing fuel adjustment clauses on file with the Commission, and the Commission believes evidentiary hearings to be unnecessarily cumbersome and costly except in special cases.

Also, the Commission does not believe the requirement of this part requiring the use of the "least expensive" fuel by a utility, is workable. The public interest, economic efficiency, and total cost minimization are not served by thus restricting only one of the resources used in the generation of electric power.

Section 306--Construction Work in Progress

Section 306 of the Act would prevent the inclusion of any portion of construction work in progress in the rate base of a public utility. This issue is currently before the Commission. Therefore, it would be inappropriate for me to comment directly upon it.

I would note for this Committee's consideration that the Federal Power Commission has until recently had no blanket rule on CWIP, although it was not generally permitted in the rate base for wholesale electric rates. Since the institution of the pending rulemaking, the Commission has not permitted rates to be collected subject to refund that are based in any part on inclusion of CWIP in the rate base. I would also note that in any decision to allow, to allow only in part, or to disallow construction work in progress, whether by our Commission or the Congress, there must be a careful definition of just what is meant by that term.

For example, such items as land held for future use which has been allowed in some instances and disallowed in others, should be considered, as to whether or not they should be included within the definition of CWIP.

Section 307--Unfair Methods of Competition

This section provides that the Commission shall prevent any public utility from engaging in an unfair method of competition and shall reject any rate schedule that would result in unfair competition. While the stated objective of eliminating "unfair" competition is commendable, there is little indication of what standards are to apply. For example, it has been argued that privately-owned electric systems are subjected to "unfair competition" through special tax and other advantages to public and cooperative systems. Would methods of competition designed to offset the so-called "unfair competition" of these systems also be unfair? Or is any low price charged by a public utility to be considered "unfair"? The Commission is left without guidance.

Section 308--Representation of Consumer Interests

This section would establish in the Commission an Office of Public Counsel, with the primary responsibility of presenting before the Commission "the views of communities and users of service affected by proceedings before the Commission whenever the Director determines . . . that such community or user might not otherwise be adequately represented." I believe that the establishment of such an Office is neither necessary nor desirable. The staff of the Commission is already performing these functions.

Proponents of this section may contend that the Office of Public Counsel could seek judicial review of Commission decisions, which the Commission's staff cannot do now, and that if the public utility's interests are directly represented, consumers' interests should also be directly represented. It has been my experience that consumer interests are generally well represented before the Commission under present procedures. If no party seeks judicial review, it would be merely dilatory to allow appeals by another body.

I would also note that the Commission's staff now represents the general public interest in any proceeding while the proposed Office would represent the interests of the users of service. These two interests are not necessarily identical, but I believe that the public interest is what should be represented.

The Commission also cannot agree with that portion of Section 308 that would provide for the payment of attorneys' fees and other costs incurred in a Commission proceeding. It has been the Commission's experience that all significant interests are represented in our proceedings. We also believe that we would face a mushrooming of litigation concerning whether a party is entitled to reimbursement of costs and how much money should be provided. Consideration of such questions could detract from our primary purpose of discharging the Commission's general statutory duties.

Section 309--Utility Reliability Standards

This section would require that the Commission promulgate minimum standards for electric utility reliability and enforce a quality control program for each electric utility designed to assure reliability of electric energy supply and of bulk power facilities. It is questionable whether there has been a demonstrated need for mandatory Federal oversight of this sort.

If there is such a need, we believe that systems cannot be dealt with on the basis of broad uniform standards of performance. Circumstances may dictate that poor performance on a lightly-loaded system would look better on paper than excellent service by a system with more difficult demands on it. If legislation is needed, it should be very general legislation vesting explicit responsibility in the Commission for reliability of power supply and providing authority to take such actions and require such reporting, construction, consultation, etc., as is necessary. This approach would give the Commission the requisite flexibility to administer the program in a manner responsive to those conditions which in the expert

judgment of the Commission are most relevant to the achievement of the task. It would allow the Commission to step in if we felt that the regional reliability councils and other voluntary groups were not doing the job, without requiring superfluous regulations and reports.

Section 310--Study of Competition in the Electric
Utility Industry

This section would require the Commission to study and report to Congress on whether increased competition is in the public interest, and on means to foster increased competition in the electric utility industry. We would note that the National Science Foundation is funding a similar project under the direction of Messrs. Harry Trebing and David Schwartz. The Commission is not necessarily expert in all of the topics to be studied, such as "the feasibility of separately-owned and operated facilities for electric and gas distribution" or "means to promote use of efficiency comparisons of electric distribution utilities by state regulatory authorities". If such a study is to be carried out, it should be made by an interdepartmental organization rather than only by the Commission (even with FTC consultation), since many of the issues raised affect a number of other departments of government.

TITLE V - COORDINATION OF PLANNING
AND SITING OF BULK POWER FACILITIES

Section 501--Long-Range Coordinated Area Planning

We agree with the apparent intent of Section 501, to assist large-scale, long-range planning of bulk electric power supply. This Commission has long held that such planning is desirable for economy, reliability and wise use of natural resources. Much of what Section 501 directs has been done by the Commission and the electric utility industry since 1970.

Electric utilities first began reporting 10-year area wide plans under FPC Order 383-2 in 1970. After review of the responses to the order and experience with the results, the Commission promulgated a revision (Order 383-3) in 1973. Since then, the Commission has issued further orders to obtain information necessary to evaluate the adequacy of utility planning.

Under Orders 383-2 and 383-3 the nine Regional Electric Reliability Councils file annually twenty-year plans with projected data essential to system planning, and ten-year plans with information as to specific generating plant sites and transmission lines and terminals. These documents are the result of coordinated planning by a large number of utilities, including municipal, investor-owned and cooperative systems. At present, not all of the

information specified by Section 501(a) and Section 205(c) (1) (J) is collected, because we have not requested it. The Federal Power Act gives us adequate authority to obtain whatever information we find necessary to the execution of our responsibility for assuring adequate power supply.

There could be some difficulty in coordinating the annual plans required of individual utilities by this subsection with the plans to be produced at two-year intervals by the planning councils to be established under Section 501(c). Because of uncertainty as to possible changes which could be imposed by the area plan, a utility might delay implementation of certain short-term aspects of its own program, thus causing the area plan to be founded at least in part on unrealistic assumptions.

Utility planning often requires joint consideration of the needs and resources of several systems in an area, with specific responsibilities being assigned to individual systems. As a result, an individual utility's plan, if considered in isolation, might not appear reasonable or prudent. It was partly for this reason that Commission Orders 383-2 and 383-3 did not require individual utility plans, but rather plans coordinated by reliability council area. Another compelling reason was the overwhelming paperwork

burden that would be created by individual reporting. Orders 383-2 and 383-3 specify the information that the Commission thinks necessary to evaluate reliability of power supply on a regional basis. Mandatory reporting by individual utilities would not significantly improve our information.

Section 501(c)

This section would greatly alter the existing regional planning structures, and some history of these groups might be useful. Nine Regional Electric Reliability Councils were organized as a result of Commission encouragement and urging following the 1965 Northeast Power Interruption. The areas of these Councils completely cover the contiguous United States. Approximately 95% of electric generating capacity in the United States is in member systems. The boundaries of the Council regions have been set by mutual agreement among the member utility systems, public, private, Federal and Canadian. Factors of contiguity and homogeneity of service areas, system interconnections and power pooling agreements have played a large part in the establishment of the Council boundaries. We would have no reason to propose significant changes in the Council boundaries for the Regional Planning Councils established by this subsection.

Paragraph 501(c) directs the Commission to establish a planning council for each area with specified voting membership. We agree with the idea of close cooperation with state governments, since adequate electric power supply is vital to the functioning of our economy and to the health and general welfare of the citizens of each state. Already, as a result of our Order 383-2 representatives of the Federal Power Commission and of the state

regulatory commissions attend meetings of the Regional Electric Reliability Councils. The Commission favors increased regional cooperation in the planning process, and believes that all government agencies potentially concerned with bulk system planning should be involved.

However, Section 501(c) provides for complete domination of the planning process by state governors, and persons usually their appointees. Voting representation by bulk power facility suppliers would be limited to one member from each state in the planning area. In the Commission's opinion, area power supply planning would be harmed by relegating those experienced in such matters, the system operates, to a secondary position, and placing real authority with the governmental members.

We question the necessity of disrupting the existing Regional Reliability Councils, which are an ongoing, successfully operating institution, by creation of a completely new institution.

Section 501(d)

In our comments on paragraph 501(a) we have noted the probable adverse effect of the differing time schedules for the individual utility plans and the area-wide plans. The Commission suggests that if the bill is adopted, reports be filed every year by both councils and by individual systems. This would allow both sets of plans to be synchronized, and would assure that reasonably up-to-date information is incorporated in them and made available to the public.

The function of the proposed area councils appears to be limited to the preparation of long-range area-wide utility plans. We believe that it would not be conducive to achievement of the desired objective, presumably a continuously adequate power supply, to replace the existing Reliability Councils by agencies with a more limited scope. System planning cannot be divorced from system operation without a reduction in reliability and a probable increase in cost. The primary disadvantage of the arrangement proposed by paragraphs 501(c) and (d) is that many operational activities now carried on by the existing Reliability Councils, and vital to bulk power supply as an

entity, are not recognized. There is little sense in divorcing planning from the ongoing work of the Reliability Councils. The Councils involve planning coordination committees, operating coordination committees, committees to review reliability standards, committees to study generator outage rates, to review inter-utility power transactions and other facets of bulk power supply. The entire engineering talent of the industry is thus involved in the tasks necessary to "keep the kilowatts flowing."

As to the final sentence of paragraph 501(d), the Commission has been engaged in evaluations and public reporting of power supply planning for some time, using as its base the information contained in the annual planning documents filed by the Reliability Councils under Order 383-2 and 383-3. We view this as one of our responsibilities under the Federal Power Act

Section 502--Facility Siting

We are in agreement with the intent of Section 502, to expedite with respect to Federal agencies the processing of siting applications. In this regard, the provisions of Title VIII, Section 807 of H.R. 2633 and the provisions of Section 502 are substantially similar, except that H.R. 2633 would make the Administrator of the Federal Energy Administration responsible for overall coordination of the Federal siting process, instead of the Chairman of the F.P.C. H.R. 2633 is also somewhat broader in scope, in that its provisions apply to the siting of "energy facilities", not just to bulk power facilities.

The Commission believes that it also would be useful to systematize the site approval process of the states, which would be accomplished under Section 804 of H.R. 2633. This section would require the preparation of energy facility management programs by the states, and would authorize the Administrator of the FEA to prepare and promulgate a state management program for a state that does not submit such a program or submits one which the Administrator determines does not meet statutory

standards. In view of the more comprehensive nature of the siting provisions of H.R. 2633, I would favor implementation of this legislation, although the siting provisions of H.R. 12461 are certainly a valuable step in the right direction.

Section 502(a)

We believe the Administrator of FEA would be the most appropriate person to supervise the approval process.

Section 502(e)

It would appear to be impractical for each Federal agency to take 18 months for its decisional process and for the lead agency to render its decision at the end of the same 18-month period. Possibly the lead agency should be given an additional period (perhaps four months) in which to assemble, review and consider the decisions of the other agencies.

TESTIMONY BY ROGER D. FREEMAN
 DEPUTY ASSISTANT SECRETARY
 ENERGY RESOURCE DEVELOPMENT
 FEDERAL ENERGY ADMINISTRATION

before the

Subcommittee on Energy and Power
 Committee on Interstate and Foreign Commerce
 on H.R. 12461

The "Electric Utility Rate Reform and
 Regulatory Improvement Act"

April 8

Utility Planning and Siting

1. INTRODUCTION

I APPRECIATE THE OPPORTUNITY TO APPEAR BEFORE THIS COMMITTEE. IN THE AREA OF ENERGY FACILITY SITING, THE PERCEPTIONS AND CONCERNS OF THE SPONSORS OF HR 12461 SEEM SUBSTANTIALLY SIMILAR TO THOSE OF THE ADMINISTRATION. BOTH HR 12461 AND TITLE VIII OF THE PRESIDENT'S OMNIBUS ENERGY BILL (NOW INTRODUCED AS H.R. 2650 AND S.619) RECOGNIZE THE SAME GENERIC PROBLEMS: THE NEEDS FOR ENHANCED PUBLIC CAPABILITY FOR ENERGY PLANNING, EFFICIENT SITING IN A MANNER COMPATIBLE WITH NEPA, AND CONSOLIDATION AND STREAMLINING OF FEDERAL AND STATE LICENSING PROCEDURES.

THE MECHANISMS PROPOSED IN HR 12461 ARE, OF COURSE, DIFFERENT AND IN SOME RESPECTS, MORE LIMITED THAN THOSE PROPOSED IN HR-2650. MY APPROACH TODAY WILL BE TO EXPLORE THE NATURE OF THOSE DIFFERENCES. AS BACKGROUND FOR THIS ANALYSIS, IT IS USEFUL TO SURVEY THE PROPOSALS IN THE FACILITY SITING AREA MADE PREVIOUSLY BY THE ADMINISTRATION, THOSE APPROACHES ADOPTED INDEPENDENTLY BY THE STATES, AND CERTAIN BASIC FEATURES OF THE SITING AND LICENSING PROBLEMS WITH WHICH WE MUST DEAL.

THE BROWN-OUTS AND BLACK-OUTS OF THE MIDDLE 1960'S WERE, OF COURSE, THE ORIGINAL IMPETUS FOR SITING LEGISLATION IN THE EARLY 70s. THESE EARLY BILLS DEALT ONLY WITH POWER PLANT SITING. THE ARAB EMBARGO HASTENED A DEEPER APPRECIATION OF NATIONAL ENERGY PROBLEMS. THE PROJECT INDEPENDENCE BLUEPRINT EXAMINED ENERGY SYSTEMS AND POTENTIALS FOR ALTERNATIVES AMONG DIFFERENT TYPES OF ENERGY.

IN HIS JANUARY 23, 1974, ENERGY MESSAGE TO THE CONGRESS, THE PRESIDENT ANNOUNCED THAT THE ADMINISTRATION WOULD SUBMIT LEGISLATION WHICH WOULD PROVIDE ADVANCE APPROVAL OF ADEQUATE SITES FOR ENERGY FACILITIES; BETTER COORDINATION OF THE APPROVAL PROCESS AT ALL LEVELS OF GOVERNMENT; AND IMPROVED LONG-RANGE PLANNING FOR MEETING ENERGY REQUIREMENTS. THE PROPOSAL DIFFERED FROM MANY EARLIER ONES IN THAT THIS ADMINISTRATION PROPOSAL EMPHASIZED THE IMPORTANCE OF A COMPREHENSIVE APPROACH TO ENERGY REGULATORY AND SITING PROBLEMS RATHER THAN ONE WHICH DEALT STRICTLY WITH ELECTRIC POWER PLANT SITES.

THIS NEW APPROACH STEMMED FROM THE FINDINGS AND RECOMMENDATIONS OF THE PRESIDENT'S FEDERAL ENERGY REGULATION STUDY, PREPARED UNDER THE DIRECTION OF WILLIAM DOUB. THIS REPORT SUGGESTED THAT THE MOST PROMISING APPROACH TO REGULATORY REFORM AND TIMELY SITING OF NEEDED FACILITIES, OF WHATEVER TYPE, WOULD BE TO TREAT REGULATION OF ENERGY PROJECTS AS AN INTEGRATED WHOLE. THIS SOLUTION WOULD PERPETUATE THE CURRENT DIVISION OF REGULATORY POWERS AMONG FEDERAL, STATE, AND LOCAL GOVERNMENTS

BUT AT THE SAME TIME, SEEK TO COORDINATE THE EXERCISE OF THESE POWERS, WITHOUT EXPANDING THE FEDERAL CONTROLS. SPECIFICALLY, THE DOBZ STUDY MADE FOUR RECOMMENDATIONS, AS FOLLOWS:

1. A NATIONAL ENERGY COUNCIL, TO PROVIDE COMPREHENSIVE POLICY GUIDANCE TO ENERGY REGULATORY AGENCIES THROUGH THE FORMULATION OF NATIONAL ENERGY OBJECTIVES.
2. A NEW LICENSING COORDINATION OFFICE, TO OVERSEE THE FEDERAL LICENSING PROCESS AND ASSURE THAT IT IS FUNCTIONING WITHOUT UNDUE DELAYS OR BOTTLENECKS.
3. A NEW CENTRALIZED ENERGY DATA OFFICE WITHIN THE EXECUTIVE BRANCH, TO AUGMENT THE INFORMATION CAPACITIES OF REGULATORY AGENCIES BY GATHERING AND MAKING AVAILABLE ENERGY-RELATED INFORMATION THAT WILL ASSIST THEM IN DECIDING ISSUES WITH BROAD SUPPLY, DEMAND AND PRICE IMPLICATIONS, AND THE INSTITUTION OF A UNIFIED INFORMATION RETRIEVAL SYSTEM.
4. A NEW FEDERAL OFFICE AND A NEW STATE-LEVEL ORGANIZATION, TO WORK TOGETHER AND EXCHANGE INFORMATION CONTINUALLY, COORDINATING FEDERAL AND STATE ACTIONS ON INDIVIDUAL ENERGY FACILITIES AND OVERALL ENERGY OBJECTIVES.

IN HIS 1975 AND 1976 ENERGY MESSAGES TO THE CONGRESS, THE PRESIDENT SUBMITTED AND REQUESTED PASSAGE OF HR 2650, THE COMPREHENSIVE "ENERGY FACILITIES PLANNING AND DEVELOPMENT ACT OF 1975", WHICH WAS INCLUDED AS TITLE VIII OF HIS OMNIBUS ENERGY BILL LAST YEAR. THE LEGISLATION REFLECTED RECOGNITION THAT THE DEVELOPMENT OF NECESSARY ENERGY FACILITIES WILL BE A JOB OF TREMENDOUS PROPORTIONS. DURING THE NEXT DECADE, WE MUST PLAN, SITE, APPROVE, AND BUILD ENERGY FACILITIES CAPABLE OF PRODUCING ANYWHERE FROM 243,000 TO 431,000 MEGAWATTS. IT ALSO REFLECTS AN UNDERSTANDING THAT

SITING, LICENSING OR OTHER DELAYS RESULT IN A NUMBER OF SERIOUS CONSEQUENCES FOR OUR NATION'S INDUSTRIES AND CONSUMERS. THESE CONSEQUENCES INCLUDE THE ECONOMIC BURDEN OF HIGHER ENERGY PRICES AND THE LACK OF AVAILABLE ENERGY IN THE MOST EFFECTIVE LOCATION AND FORM TO MEET USER NEEDS. THESE ISSUES WILL BE DISCUSSED IN GREATER DETAIL BELOW.

2. ELEMENTS OF H.R. 2650 AND CERTAIN STATE SITING LAWS

THE PRINCIPAL ELEMENTS OF H.R. 2650, TAKEN TOGETHER, REPRESENT AN INTEGRATED ANALYTIC APPROACH TO FACILITY LICENSING AND SITING PROBLEMS WHICH SHOULD BE CONSIDERED IN THE SHAPING OF THE APPLICABLE PROVISIONS OF HR 12461. H.R. 2650 PROPOSED A FOUR PRONGED ATTACK ON THE PROBLEMS OF PROVIDING FOR DOMESTIC ENERGY RESOURCE DEVELOPMENT:

1. THE NATIONAL ENERGY SITING AND FACILITY REPORT
2. STATE ENERGY FACILITY MANAGEMENT PROGRAMS
3. INTERSTATE COMPACTS FOR REGIONAL ENERGY PLANNING
4. STREAMLINED FACILITY LICENSING BY FEDERAL AGENCIES.

THE NATIONAL ENERGY SITING AND FACILITY REPORT WOULD PROVIDE -- FOR THE FIRST TIME -- AN INFORMATIONAL FRAMEWORK FOR LOCAL, STATE, REGIONAL, AND PRIVATE SECTOR DECISIONMAKING ON ENERGY DEVELOPMENT. MORE SPECIFICALLY, THE REPORT WOULD PROVIDE INFORMATION ON:

- THE PROJECTED NATIONAL DEMAND FOR ENERGY AND THE NUMBER OF FACILITIES NECESSARY TO SATISFY DEMAND;
- THE IMPACT OF VARIOUS ENERGY CONSERVATION MEASURES AND DEMAND PROJECTIONS AND NEED FOR FACILITIES;
- THE STATUS OF ALL REGULATORY APPLICATIONS FOR NEW ENERGY FACILITIES PENDING AT FEDERAL AND STATE LEVELS;
- THE PUBLIC SERVICE IMPACTS OF PENDING ENERGY FACILITY DEVELOPMENT; AND
- ECONOMIC, SOCIAL AND ENVIRONMENTAL IMPLICATIONS OF LOCATING ENERGY FACILITIES IN VARIOUS REGIONS OF THE COUNTRY.

FEA WOULD PREPARE THE REPORT IN COOPERATION WITH FEDERAL AND STATE ENERGY AGENCIES AND SUPPLIERS, BUT WOULD RELY PRIMARILY ON INDEPENDENTLY ASSEMBLED DATA.

H.R. 2650 CONTEMPLATES THAT BY USING THE DATA FROM THE NATIONAL REPORT, EACH STATE WOULD DEVELOP A DETAILED STATE ENERGY MANAGEMENT PROGRAM PROVIDING FOR:

- PROCEDURES FOR STATE REGULATORY REVIEW AND DECISION-MAKING ON NEW ENERGY FACILITY APPLICATIONS WITHIN 18 MONTHS FROM THE DATE OF APPLICATION
- AN ENERGY NEEDS AND FACILITY PLANNING PROCESS;

- PROCEDURES TO ENSURE THAT STATE DECISIONS ON APPLICATIONS TO SITE, CONSTRUCT, OR OPERATE ENERGY FACILITIES ARE FINAL;
- COORDINATION OF THE ENERGY FACILITY PLANNING AND SITING PROCESS WITH THE STATE'S OVERALL LAND USE AND COASTAL ZONE PLANNING PROGRAMS.

A SEPARATE PROVISION WOULD AUTHORIZED FEA TO COORDINATE AND SCHEDULE THE REGULATORY PROCESSING OF ALL FEDERAL APPLICATIONS FOR ENERGY FACILITIES. LIKE THE HR 12461, PROVISION FOR BULK POWER FACILITIES, IT ESTABLISHES AN 18-MONTH DEADLINE FOR FINAL FEDERAL DECISIONS ON ALL APPLICATIONS TO SITE AND CONSTRUCT ENERGY FACILITIES.

H.R. 2650 WOULD ALSO CONFER SPECIFIC AUTHORITY ON THE STATES TO ENTER INTO COMPACTS FOR COORDINATION OF ENERGY PLANNING AND FACILITY DEVELOPMENT. THE FOCUS WAS THUS ON THE ENCOURAGEMENT OF STATES TO ASSUME RESPONSIBILITY FOR THE FUTURE ADEQUACY OF THEIR ENERGY SUPPLIES AND THE SELECTION OF ACCEPTABLE LOCATIONS FOR ENERGY FACILITIES.

THE ADMINISTRATION SELECTED THIS APPROACH AS THE BEST MEANS TO ENSURE COMPREHENSIVE ENERGY PLANNING AND STILL PROTECT THE STATE LEAD ROLE IN SITE-SPECIFIC DECISIONS. THE FEDERAL GOVERNMENT DOES NOT NEED, NOR SHOULD IT SEEK ADDITIONAL AUTHORITY TO MAKE SPECIFIC SITE APPROVAL DECISIONS. ENERGY FACILITY PLANNING AND SITE SELECTION SHOULD REMAIN STATE AND LOCAL GOVERNMENT PREROGATIVES.

THE STATES HAVE ALREADY BEGUN TO RECOGNIZE THE NEED FOR A SYSTEMATIC APPROACH TO ENERGY FACILITY SITING. TWENTY-FOUR STATES HAVE RECENTLY ENACTED LAWS WHICH TO VARYING DEGREES ADDRESS THE PROBLEMS OF POWER PLANT SITING AND ENERGY PLANNING. EXHIBIT ONE IDENTIFIES THE RANGE OF APPROACHES IN THESE STATES. NO STATE HAS COMPREHENSIVE SITING AND "ONE-STOP" STATE AND LOCAL LICENSING PROCEDURES THAT APPLY TO ALL TYPES OF ENERGY FACILITIES.

THE CALIFORNIA (WAPREN-ALQUIST) LAW IS THE MOST COMPREHENSIVE. IT REQUIRES THE STATE TO INCORPORATE CONSERVATION, ENVIRONMENTAL, PUBLIC SAFETY, AS WELL AS DEMAND FACTORS INTO LONG-RANGE FACILITY PLANNING. WHILE POWER PLANT SITE SELECTION IS DONE BY THE UTILITIES, AS SUGGESTED BY H.R. 12461, THE CALIFORNIA LAW REQUIRES THAT THREE ALTERNATIVE SITES BE SUBMITTED AT THE TIME STATE SITE APPROVAL IS REQUESTED.

MARYLAND HAS ENACTED THE FIRST STATE POWER PLANT SITING LEGISLATION WHICH REQUIRES THAT THE STATE ITSELF SELECT AND PURCHASE A MINIMUM OF FOUR MAJOR POWER PLANT SITES FOR RESALE TO UTILITIES, AND THAT THE STATE UNDERTAKE INDEPENDENT SUPPLY-DEMAND ANALYSIS. THIS RECOGNITION OF THE NEED FOR MORE STATE INVOLVEMENT IN FACILITY SITING IS CONSISTENT WITH THE ADMINISTRATION'S POSITION.

MASSACHUSETTS HAS A UNIQUE PROVISION ESTABLISHING AN INDEPENDENT APPEALS BOARD. ANY UTILITY OR INDIVIDUAL CAN APPEAL STATE OR LOCAL AGENCY DECISIONS APPROVING OR DISAPPROVING A PERMIT FOR A POWER PLANT. AFTER HEARINGS AND AN INDEPENDENT ANALYSIS, THE MASSACHUSETTS APPEALS BOARD CAN SET ASIDE PREVIOUS

AGENCY DECISIONS IF IT FINDS THAT AN AGENCY DECISION IS NOT IN THE BEST PUBLIC INTEREST. THE BOARD CAN ALSO WAIVE POLLUTION STANDARDS OR OTHER REGULATORY CRITERIA FOR UP TO TWO YEARS. THUS, THIS ALTERNATIVE APPROACH SEEMS TO PROVIDE, AS DO BOTH H.R. 12461 AND THE ADMINISTRATION, THAT A MECHANISM FOR INJECTING VIEWS OF THE CONSUMER INTO PROCEEDINGS IS NECESSARY.

2. SITING AND FUTURE ENERGY NEEDS:

BEFORE PROCEEDING TO AN EVALUATION OF THE DIFFERENCES IN APPROACH BETWEEN H.R. 12461 and H.R. 2650, IT IS USEFUL TO EVALUATE THE BASIC DEVELOPMENTS IN THE SITING AREA WHICH HAVE TRIGGERED FEDERAL AND STATE LEGISLATIVE EFFORTS AND WHICH WE CAN ALL READILY FORESEE OVER THE NEXT DECADE.

FIRST, AS FEA'S NATIONAL ENERGY OUTLOOK HIGHLIGHTS, INCREASED COMPLEXITIES IN SITING ALL TYPES OF ENERGY FACILITIES WILL BE FACED.

ENERGY DEMAND GROWTH IS PROJECTED AT 2.8 PERCENT PER ANNUM (DOWN FROM THE RATE OF 3.6 PERCENT DURING THE 29 YEAR PERIOD PRECEDING THE EMBAFEO.) TOTAL DOMESTIC SUPPLY IS FORECAST TO INCREASE BY 40 PERCENT BETWEEN NOW AND 1985, WITH ALL MAJOR FUELS PLAYING A LARGE ROLE:

- COAL PRODUCTION COULD INCREASE TO OVER ONE BILLION TONS, FROM CURRENT LEVELS OF 640 MILLION TONS PER ANNUM.

- OIL PRODUCTION COULD REACH 13.9 MM BBL/D, IF OUTER CONTINENTAL SHELF LEASING IS STRONGLY PURSUED AND MARKET PRICES PREVAIL.
- NATURAL GAS PRODUCTION COULD REACH 12.3 TRILLION CUBIC FEET (TCF) IF NEW GAS PRICES ARE DEREGULATED, BUT IS PROJECTED TO BE 17.9 TCF UNDER CURRENT REGULATIONS
- ALTHOUGH NUCLEAR POWER HAS EXPERIENCED SIGNIFICANT DELAYS, IT COULD GROW FROM CURRENT LEVELS OF 8.6 TO ABOUT 26 PERCENT OF ELECTRICITY GENERATION.
- EMERGING TECHNOLOGIES SUCH AS THE CONVERSION OF COAL INTO OIL OR GAS, SOLAR, AND GEOTHERMAL ENERGY, WILL BE IMPORTANT IN THE POST-1985 PERIOD, BUT WILL NOT PRODUCE MUCH ENERGY IN THE NEXT TEN YEARS

SECOND, THE NEED FOR GOVERNMENT TO RESPOND TO BOTH THE VIEWS OF INDIVIDUALS AND THE PROBLEMS OF UNCOORDINATED DEVELOPMENT WITH EFFECTIVE PLANNING WILL BE INCREASED. THE FREQUENTLY VOICED CONCERNS OF THE STATES AND CITIZENS AT THE LOCAL LEVEL ARE NOT SO MUCH DIRECTED TOWARD OPPOSITION TO THE DEVELOPMENT OF OUR DOMESTIC ENERGY RESOURCES AS THEY ARE TO THE IMPACTS AND CONSEQUENCES OF UNPLANNED, UNCOORDINATED DEVELOPMENT OF FACILITIES. THE ADMINISTRATION HAS RECOGNIZED THE NEED TO PROVIDE STATE AND LOCAL GOVERNMENTS WITH FINANCIAL AND PLANNING ASSISTANCE TO PLAN FOR AND COPE WITH ENERGY IMPACTS.

ACCORDINGLY, WE EXPECT THE TEND OF STATES TO DEVELOP FACILITY PLANNING CAPABILITY WILL CONTINUE TO INCREASE. FEA HAS BEEN WORKING CLOSELY THROUGH THE NATIONAL GOVERNOR'S CONFERENCE TO MONITOR AND SUPPORT STATE LEGISLATIVE EFFORTS. TRENDS OUTLINED IN A NEW ENGLAND POWER STUDY LEAD US TO EXPECT SEVERAL ADDITIONAL STATES MAY ENACT FACILITY SITING LEGISLATION IN THIS YEAR'S SESSION. MANY OF THE STATE LAWS REFLECT TO SOME DEGREE THE COMPREHENSIVE STATE ENERGY MANAGEMENT PROGRAM CRITERIA SPELLED OUT IN H.R. 2650.

THIRD, THE NEED TO VASTLY IMPROVE THE INTERFACE BETWEEN THE LICENSING ACTIVITIES OF FEDERAL AGENCIES WILL BECOME MORE ACUTE AS TIME PASSES.

ENERGY DEVELOPMENT IS UNNECESSARILY COMPLICATED AND DELAYED BY THE MULTIPLICITY OF REQUIRED GOVERNMENT AGENCY APPROVALS AND THE LACK OF COORDINATION AMONG THE AGENCIES.

FEA'S RECENTLY COMPLETED CONTRACT STUDY IDENTIFIED 58 FEDERAL LICENSE AND PERMIT APPROVALS THAT ARE REQUIRED FOR THE SITING AND CONSTRUCTION OF ENERGY FACILITIES, AND TRACED THE FEDERAL REGULATORY REQUIREMENTS FOR EACH OF 42 TYPES OF FACILITIES. (I AM DELIVERING A COPY TO THE SUBCOMMITTEE.) BY REFERENCE TO EXHIBIT TWO EXTRACTED FROM THAT REPORT, YOU CAN SEE, FOR EXAMPLE, THAT A DEEPWATER PORT MAY REQUIRE EIGHT SEPARATE FEDERAL REGULATORY ACTIONS, WHILE AN ONSHORE

NUCLEAR POWER PLANT MAY REQUIRE 15 OR MORE. THE PERMIT REQUIREMENTS FOR SIMILAR PLANTS WILL, OF COURSE, VARY DEPENDING ON LOCATION AND DESIGN.

CONSIDERING THAT STATE AND LOCAL REGULATORY REQUIREMENTS ARE IN SOME CASES EVEN MORE COMPLEX THAN FEDERAL REQUIREMENTS, IT IS NOT SURPRISING THAT LARGE ENERGY FACILITIES MAY INVOLVE NEARLY 100 INDIVIDUAL REGULATORY ACTIONS. EACH GOVERNMENT AGENCY BASES ITS DECISIONS ON A NARROW STATUTORY MANDATE WITH LITTLE, IF ANY, COORDINATION BETWEEN AGENCIES TO ASSURE CONSISTENT INFORMATION BASES, RECONCILE CONFLICTS, OR ADDRESS THE LONG-TERM PUBLIC INTEREST ASPECTS OF THE PROJECT AS A WHOLE.

FOURTH, INDUSTRY IS NOT ALWAYS THE CAUSE OF LICENSING DELAYS, BUT IS ALWAYS THE SUBJECT OF THEM. THE BURDEN FOR SCHEDULING AND COORDINATING THE TANGLE OF COMPLEX GOVERNMENT ACTIONS DESCRIBED ABOVE NOW FALLS ON THE INDUSTRY APPLICANT. FREQUENTLY, ONE AGENCY DELAYS ACTION WHILE WAITING FOR OTHER AGENCIES TO MAKE A DECISION, OR VARIOUS AGENCIES ASSIGN DIFFERENT PRIORITIES TO PROCESSING LICENSE OR PERMIT APPLICATIONS ON THE SAME PROJECT. INDUSTRY HAS NO CONTROL OVER AGENCY WORK SCHEDULES, AND THUS, AN INDUSTRY APPLICANT FREQUENTLY FINDS AN ENTIRE PROJECT DELAYED FOR WANT OF A RELATIVELY MINOR PERMIT OR COMPLIANCE APPROVAL.

IN CERTAIN INSTANCES, AGENCIES ARE RELUCTANT TO SPELL OUT FULLY IN ADVANCE THE PARAMETERS FOR OBTAINING THEIR APPROVAL, OR WORSE, AGENCIES EITHER CHANGE THEIR RULES OR ADD TO THE INFORMATION REQUIREMENTS AFTER A COMPANY HAS PREPARED AND SUBMITTED THE APPLICATION.

FEA IS ALREADY ACTING, WITHIN THE LIMITS OF ITS CURRENT AUTHORITY, TO DEVELOP THE SPECIFIC AND DETAILED INFORMATION NEEDED TO SUCCESSFULLY STREAMLINE FEDERAL PROCEDURES. WE DID PILOT STUDIES TO TEST THE METHODOLOGICAL CONCEPTS AND DATA-GATHERING SUFFICIENCY AT THE NATIONAL LEVEL. WE ARE COMPILING COPIES OF ALL FEDERAL LICENSE AND PERMIT APPLICATION FORMS AND RELATED INSTRUCTIONS AND REGULATIONS TO EXAMINE THE COMPOSITE APPLICATION CONCEPT. WE WILL BE ANALYZING THE INFORMATION REQUIREMENTS OF THESE VARIOUS FORMS FOR THE PURPOSE OF IDENTIFYING POTENTIAL FOR CONSOLIDATION AND FOR ELIMINATION OF INCONSISTENCIES. WE WOULD HOPE THAT OUR EFFORTS COULD SERVE AS THE BASIS FOR THE TYPES OF REFORM CONTEMPLATED BY H.R. 12461.

IN ADDITION, FEA IS UNDERTAKING TO PREPARE DETAILED FLOW CHARTS, SIMILAR TO EXHIBIT THREE, OF THE FEDERAL, STATE,

AND LOCAL GOVERNMENT REGULATORY REQUIREMENTS FOR SIX LARGE NEW ENERGY PROJECTS, INCLUDING A SYNTHETIC FUELS PLANT, A REFINERY, A COAL MINE, A COAL-FIRED POWER PLANT, AN ADDITION TO AN EXISTING NUCLEAR PLANT, AND A NEW NUCLEAR PLANT.

THE FLOW CHARTS WILL DEMONSTRATE THE REGULATORY PROCESS AND PROCEDURES AS THEY ACTUALLY OCCUR NOW IN THE REAL WORLD. SINCE THE LICENSING AND PERMIT REQUIREMENTS DIFFER TO SOME EXTENT FOR EVERY PROJECT, IT IS ESSENTIAL IN DEVELOPING A PROJECT SCHEDULING SYSTEM TO USE ACTUAL CASE STUDIES TO UNDERSTAND FROM A COMPREHENSIVE VIEWPOINT HOW VARIOUS PROCEDURES OF DIFFERENT AGENCIES INTERRELATE.

SIXTH, THERE MAY BE NATIONAL AND LOCAL ENERGY PENALTIES ASSOCIATED WITH INADEQUATE GOVERNMENTAL CONCERN WITH SITING ISSUES. ENERGY SITE AND PRECONSTRUCTION APPROVAL DELAYS CAN RESULT IN CANCELLATION OR RELOCATION OF THE PROPOSED ENERGY FACILITIES OR SUBSTITUTION OF MUCH LESS DESIRABLE ALTERNATIVES FOR MEETING ENERGY DEMANDS. FOR EXAMPLE, A DELAY IN REGULATORY DECISIONS FOR CONSTRUCTION OF COAL OR NUCLEAR POWER PLANTS, WHICH HAVE EIGHT TO TEN-YEAR LEAD TIMES, CAN RESULT IN SMALLER OIL-FIRED FACILITIES BEING SUBSTITUTED IN THE SHORTENED AVAILABLE TIMEFRAME. THIS TENDENCY MAY BE EXACERBATED BY THE FACT THAT UTILITIES MAY BE INCLINED TO FAVOR CONSTRUCTION OF PLANTS THAT HAVE

LOWER INITIAL CAPITAL COSTS, I.E., OIL AND GAS, OVER MORE CAPITAL, INTENSIVE COAL AND NUCLEAR PLANTS. CLEARLY, THIS TREND IMPOSES AN UNDESIRABLE ENERGY PENALTY ON THE NATION.

ONE CURRENT EXAMPLE OF POWER PLANT SUBSTITUTION OF THE TYPE DISCUSSED ABOVE IS SAN DIEGO GAS AND ELECTRIC COMPANY'S ENCINA NO. 5 PROJECT. DELAYS IN REGULATORY APPROVALS AND CONSTRUCTION OF PROJECTED NUCLEAR AND COAL-FIRED POWER PLANTS HAVE FORCED SAN DIEGO GAS AND ELECTRIC TO BUILD A SUBSTITUTE OIL-FIRED GENERATION FACILITY AND TO RETAIN ONLINE OBSOLETE AND INEFFICIENT OIL AND GAS-FIRED UNITS IN ORDER TO MEET ENERGY DEMAND IN THEIR SERVICE AREA. THIS TYPE OF SITUATION WILL BECOME INCREASINGLY CRITICAL IF THE RESERVE MARGINS OF MANY UTILITIES ARE ALLOWED TO FALL BELOW SAFE LEVELS.

FEA HAS UNDERTAKEN TO IDENTIFY THE ECONOMIC IMPACTS OF INADEQUATE GOVERNMENTAL CONCERN WITH SITING ENERGY FACILITIES BY CONTRACTING WITH THE NUCLEAR INSTITUTE FOR ENERGY ANALYSIS IN OAK RIDGE, TENNESSEE, THE STUDY, WHICH ANALYZED THE PENALTIES.

RESULTING FROM HIGHER ENERGY COSTS AND THE CONSTRUCTION OF ENERGY PROJECTS OTHER THAN THOSE INITIALLY INTENDED. THE STUDY CONCLUDED THAT THE COST PENALTY OF A ONE-YEAR DELAY FOR AN GASOLINE REFINERY WAS \$27.2 MILLION, FOR A SURFACE COAL MINE WAS \$2.8 MILLION AND FOR A COAL FIRED POWER PLANT WAS \$19.3 MILLION.

3. COMPARISON OF HR 12461 AND HR 2650:

AGAINST THIS BACKGROUND, I WOULD LIKE TO HIGHLIGHT FOR YOU THOSE AREAS OF DIFFERENCE BETWEEN H.R. 12461 AND H.R. 2650.

FIRST, H.R. 2650 WOULD BE COMPREHENSIVE IN ITS SITING SCOPE - IT WOULD APPLY TO ALL TYPES OF FACILITIES, WHILE H.R.

12461 IS LIMITED TO BULK POWER FACILITIES. WE BELIEVE THAT H.R. 12461'S APPROACH OVERLOOKS THE INTERRELATIONSHIPS BETWEEN THE SITING OF POWER PLANTS AND OTHER ENERGY SOURCES, AND THUS REDUCES THE POTENTIAL VALUE OF FACILITY SITING LEGISLATION.

ELECTRIC UTILITY PLANTS WILL, OF COURSE, REPRESENT THE MAJOR TYPE OF ENERGY FACILITY WHICH A STATE WILL BE SITING. IN MANY CASES, HOWEVER, THERE WILL BE OTHERS SUCH AS OIL REFINERIES, COAL GASIFICATION PLANTS, AND COAL PROCESSING FACILITIES. STATES SUCH AS CALIFORNIA ARE BEGINNING TO TAKE A COMPREHENSIVE APPROACH, RECOGNIZING THE INTERDEPENDENCE OF FACTORS LIKE TRANSPORTATION, ECOLOGY AND ENERGY, WHICH MUST GO INTO LAND USE PLANNING. FOCUSING ON ONE PARTICULAR ENERGY SOURCE APPEARS LIKELY TO VITIATE STATES' OVERALL COMPREHENSIVE PLANNING.

SECOND, WE BELIEVE THAT STATE GOVERNMENTS REPRESENT THE APPROPRIATE MECHANISM THROUGH WHICH SITING POLICIES SHOULD BE DEVELOPED AND ENFORCED. HR 2650 WOULD PROVIDE PLANNING

ASSISTANCE FUNDS TO THE STATES. IT ALSO BUILDS ON THE EXISTING AUTHORITY OF THE STATES AND SEEMS TO ENHANCE THEIR CAPABILITY TO MAKE THE RIGHT ENERGY DECISIONS AND TO IMPLEMENT THESE DECISIONS WHEN MADE. THE BULK POWER PLANNING COUNCILS PROVIDED BY HR. 12461 ARE AT MOST, ONLY POTENTIALLY USEFUL ADVISORY MECHANISMS. THEY DO NOT PROVIDE THE TYPE OF DIRECT IMPLEMENTATION MECHANISM WHICH WOULD BE AFFORDED BY THE STATES, AND MAY TEND TO DETRACT FROM THE STATE PLANNING ROLE, EVEN THOUGH H.R. 12461 WOULD PROVIDE PLANNING ASSISTANCE FUNDS TO THE STATES. MOREOVER, BECAUSE THE BULK POWER FACILITY PLANNING COUNCILS APPARENTLY LACK ANY AUTHORITY EXCEPT COORDINATION, THEIR CHARTER MAY NOT EMPOWER THEM TO EVALUATE THE VALIDITY OF REGIONAL OR STATE USE OF ALTERNATIVE SOURCES OF ENERGY AND THE SITING ALTERNATIVES ASSOCIATED WITH THESE ENERGY CHOICES, e.g., ENCOURAGEMENT OF SUPPLEMENTAL GAS SOURCES DEVELOPMENT OR CONSERVATION VERSUS INCREASED ELECTRICITY USE. IT IS ALSO QUESTIONABLE WHETHER IT WILL BE FEASIBLE TO STAFF THE COUNCILS IN THE DEPTH REQUIRED TO CONSTRUCTIVELY SUPPLEMENT THE WORK PERFORMED BY PUBLIC SERVICE COMMISSIONS.

THIRD, WE BELIEVE THAT A BETTER WAY TO OBTAIN REGIONAL IMPLEMENTATION OF PLANNING IS THROUGH REGIONAL COMPACTS SUBSCRIBED TO BY THE STATES. WHILE WE RECOGNIZE THAT EVEN THIS MECHANISM MAY NOT PROVE TO BE OPTIMAL, WE WOULD SUGGEST THAT IT IS MORE LIKELY TO ACHIEVE RESULTS THAN REGIONAL COUNCILS ACTING UNDER LIMITED STATUTORY MANDATES. THE BASIS FOR OUR VIEWPOINT IS DISCUSSED IN DETAIL IMMEDIATELY BELOW.

FOURTH, WE BELIEVE THAT HR 12461'S EMPHASIS ON PRIVATE RATHER THAN STATE-GENERATED, LONG-RANGE PLANS COULD LEAD TO PUBLIC CRITICISM OF THE REGIONAL PLANS AS NARROWLY FOCUSED, SELF-SERVING, AND NOT CONSISTENT WITH ESTABLISHED POLICIES AND OBJECTIVES OF OTHER PUBLIC PLANS. THIS COULD RESULT IN A NEW CAUSE OF DELAY AT THE PLANNING STAGE.

WE BELIEVE THIS TO BE TRUE BECAUSE OF THE DIFFICULTIES OF INTERMESHING THE ELEMENTS OF PRIVATE AND PUBLIC PLANNING. TITLE V OF HR 12461 REQUIRES THAT UTILITIES ANNUALLY PREPARE A LONG-RANGE PLAN FOR BULK POWER FACILITIES BASED ON BEST AVAILABLE INFORMATION. THERE ARE NO MANDATED REQUIREMENTS FOR THE UTILITY PLANS TO REFLECT THE POLICY AND PLANS OF STATE AGENCIES RELATED TO MATTERS SUCH AS AIR QUALITY, LAND USE AND TRANSPORTATION.

AT THE PRESENT TIME, MOST PROPOSED ENERGY FACILITY SITES ARE SELECTED BY INDUSTRY WELL IN ADVANCE OF APPLICATION FOR PUBLIC APPROVAL. EACH COMPANY ESTABLISHES SITE SELECTION CRITERIA FOR PLANNED FACILITIES BASED ON ITS INDIVIDUAL EXPERIENCE AND CONSTRAINTS, INCLUDING COMPETITIVE POSITION, PROFIT, FINANCING, AND SIMILAR CORPORATE FACTORS.

PUBLIC INTEREST CONSIDERATIONS, BOTH LOCAL AND NATIONAL, ARE ONLY ONE FACTOR CONSIDERED BY THE COMPANY IN SELECTION OF AN ENERGY FACILITY SITE. HOWEVER, AS SOON AS THE FIRST NECESSARY PERMIT APPLICATION IS SUBMITTED TO A GOVERNMENT AGENCY FOR RE-WEIGHING OF ANY OTHER REGULATORY ACTION, THE SOCIO-ECONOMIC, ENVIRONMENTAL, HOUSING, PROPERTY TAX, AND SIMILAR IMPACTS RESULTING FROM THE PROPOSED USE OF THAT SITE FOR AN ENERGY PURPOSE BECOME THE PRIME PUBLIC CONCERNS IN GRANTING NECESSARY PRECONSTRUCTION APPROVALS. FREQUENTLY, THERE IS A DISPARITY BETWEEN THE COMPANY'S SITE SELECTION CRITERIA AND THE EVALUATION OF THE SITE APPLICATION BY AN AGENCY FROM ITS OWN PUBLIC INTEREST STANDPOINT. EXCEPT IN THE CASE OF MARYLAND, WHERE THE STATE ITSELF SELECTS AND PURCHASES POWER PLANT SITES, AND MONTANA, WHICH HAS A MORE LIMITED SITE SELECTION PROCEDURE, THERE ARE NO MECHANISMS WHICH PROVIDE ASSURANCE TO INDUSTRY THAT THEIR SELECTED SITE HAS A REASONABLE PROBABILITY OF OBTAINING THE PUBLIC AGENCY APPROVALS NEEDED FOR CONSTRUCTION.

OBVIOUSLY, THE UNFORTUNATE CONSEQUENCES OF DELAYED INTERFACE OF PRIVATE AND PUBLIC NEEDS, INCLUDING PROTRACTED AND POTENTIALLY UNNECESSARY ADVERSARY PROCEEDINGS, SHOULD BE MINIMIZED. TO DO THIS, WE BELIEVE ATTENTION MUST BE FOCUSED NOT JUST ON ENABLING STATES TO PROVIDE ADEQUATE FORUMS FOR PROTRACTED PROCEEDINGS, BUT ON ENABLING THEM TO PRE-SELECT OPTIMAL SITES FOR DEFERRED CONSTRUCTION OF SPECIFIC TYPES OF ENERGY FACILITIES TO THE EXTENT FEASIBLE, IF THEY SO CHOOSE, OR OTHERWISE TO PREDEFINE THE FACILITY SITING COURSE WHICH MUST BE RUN WITH GREAT PRECISION.

THERE IS A CREDIBILITY GAP BETWEEN INDUSTRY AND STATE REGULATORY AGENCIES AND THE PUBLIC. THE REGULATORY PROCESS WILL WORK BEST IF PUBLIC CONFIDENCE IS BUILT UP THROUGH OPEN PLANNING PROCESSES CARRIED OUT DIRECTLY BY PUBLIC AGENCIES.

IN SUM, IT IS OUR VIEW THAT IT IS UNREALISTIC TO EXPECT THE FRAGMENTED PERCEPTIONS OF NUMEROUS PRIVATE FIRMS TO SERVE IN THE AGGREGATE AS THE BASIS FOR COORDINATED PUBLIC POLICY IN THE MANNER CONTEMPLATED BY H.R. 12461.

FIFTH, WHILE WE NOTE THE CONSIDERABLE PROCEDURAL SIMILARITIES BETWEEN TITLE V OF H.R. 12461 AND SECTION 7 OF H.R. 2650 FEDERAL COORDINATION AT THE INTERAGENCY LEVEL SHOULD BE PERFORMED BY AN AGENCY WHICH HAS COMPREHENSIVE ENERGY POLICY AND ADMINISTRATIVE RESPONSIBILITY. UNLIKE H.R. 2650, WHICH WOULD PLACE THE STREAMLINING AND EXPEDITING FUNCTIONS IN FEA, HR 12461 WOULD PLACE THESE RESPONSIBILITIES IN THE FEDERAL POWER COMMISSION. BEFORE THE LATTER APPROACH IS ADOPTED, TWO FACTORS SHOULD BE CONSIDERED. FIRST, THE FPC, LIKE THE NRC, ALREADY HAS A VARIETY OF DIRECT LICENSING AND PERMITTING AUTHORITIES. SECOND, THE THRUST OF THE DOUB REPORT, ALLUDED TO EARLIER, IS TO STRENGTHEN, NOT CHANGE, THE BASIC AUTHORITIES OF STATE AND FEDERAL AGENICES. THIS CONCLUSION WAS ARRIVED AT AFTER CAREFUL EVALUATION OF AVAILABLE ALTERNATIVES. THE LOCATION OF THE STREAMLINING AND EXPEDITING FUNCTION IN FEA OR A COMPAPABLE BODY WITH BROAD ENERGY POLICY OVERSIGHT FUNCTIONS IS THUS LESS LIKELY TO PUT STRAINS ON EXISTING ADMINISTRATIVE MECHANISMS. THIS SOLUTION IS ALSO MORE UNLIKELY TO BE CONSISTENT TO A COMPREHENSIVE ANALYSIS IN SUPPORT OF THE PUBLIC LICENSING AND SITING AND DECISION.

IN SUM, WE BELIEVE THE H.R. 2650 APPROACH WILL ENCOUPAGE DEVELOPMENT AT THE STATE LEVEL OF A MORE PATIONAL, SYSTEMATIC, AND RAPID DECISIONMAKING PROCESS; THE PUPCLPTION OF REGIONAL PLANNING AS MORE DIRECTLY FACILITATED BY STATE RATHER THAN

FEDERAL EFFORTS AND AN ADMINISTRATIVELY SOUND APPROACH TO A MORE COMPREHENSIVE FEDERAL EXPEDITING FUNCTION. IN OUR VIEW, THE GOALS OF H.R. 2560 - WHICH WE BELIEVE MIGHT BE MORE FULLY INCORPORATED IN H.R. 12461 ARE NOT ONLY TO SITE FACILITIES AS QUICKLY AS POSSIBLE, BUT RATHER (A) TO INVOLVE THE STATES IN A THOROUGH PLANNING PROCESS WHICH IDENTIFIES THE COSTS AND BENEFITS OF VARIOUS ALTERNATIVES EARLY IN THE PLANNING AND DECISIONMAKING PROCESS, AND WHICH TAKES INTO CONSIDERATION NATIONAL AS WELL AS STATE AND LOCAL ALTERNATIVES AND NEEDS, AND (B) TO SENSITIZE FEDERAL AGENCIES BOTH TO STATE NEEDS AND THE NEED FOR CONSIDERATION OF STATE REQUIREMENTS.

THIS WILL GUARANTEE THAT ALL STATES AND THE PEOPLE IN THE STATES TAKE AN ACTIVE AND EARLY PART IN ENERGY FACILITY SITING.

AS ENERGY DEMAND REQUIREMENTS PICK UP IN THE NEXT FEW YEARS, THE DEMAND FOR SITES MAY BE EXPECTED TO ACCELERATE. ENVIRONMENTAL LEGISLATION AT BOTH THE STATE AND FEDERAL LEVELS MAY BE EXPECTED TO LIMIT FURTHER SITE AVAILABILITY. DIALOGUE ON ENERGY LOCATION CAN EASILY GIVE WAY TO DIATRIBE, AS IT OFTEN HAS IN THE PAST. THE NEED TO ESTABLISH DEFINITE PUBLIC POLICIES AND OBJECTIVES FOR BOTH ENERGY CONSERVATION AND DEVELOPMENT, AND DEFINE CLEARLY THE FACILITY SITING PROCEDURES WHICH MUST BE OBSERVED BY UTILITIES AND OTHER SEGMENTS OF THE ENERGY INDUSTRY IS CLEAR. IN DEALING WITH THESE TRENDS, WE SHOULD BUILD UPON A COMMON GROUND. I LOOK FORWARD TO WORKING WITH THE SUBCOMMITTEE TO CONSIDER THESE IMPORTANT ISSUES.

Table II—State Energy Facility Siting Program*

Powerplant siting laws	I. Planning and assessment											Overall feasibility rating	Remarks and notes	
	Inventory existing facilities	Needs and demands	Total available potential	Impacts				Time period (yrs)						
				Environmental	Economic	Social	Other	2	5	10	15	20		
Alabama	X	X	X	X	X	X	X	X	X	X	X	X	X	
Arizona	X	X	X	X	X	X	X	X	X	X	X	X	X	
Arkansas	X	X	X	X	X	X	X	X	X	X	X	X	X	
California	X	X	X	X	X	X	X	X	X	X	X	X	X	
Colorado	X	X	X	X	X	X	X	X	X	X	X	X	X	
Connecticut	X	X	X	X	X	X	X	X	X	X	X	X	X	
Delaware	X	X	X	X	X	X	X	X	X	X	X	X	X	
District of Columbia	X	X	X	X	X	X	X	X	X	X	X	X	X	
Florida	X	X	X	X	X	X	X	X	X	X	X	X	X	
Georgia	X	X	X	X	X	X	X	X	X	X	X	X	X	
Hawaii	X	X	X	X	X	X	X	X	X	X	X	X	X	
Idaho	X	X	X	X	X	X	X	X	X	X	X	X	X	
Illinois	X	X	X	X	X	X	X	X	X	X	X	X	X	
Indiana	X	X	X	X	X	X	X	X	X	X	X	X	X	
Iowa	X	X	X	X	X	X	X	X	X	X	X	X	X	
Kansas	X	X	X	X	X	X	X	X	X	X	X	X	X	
Kentucky	X	X	X	X	X	X	X	X	X	X	X	X	X	
Louisiana	X	X	X	X	X	X	X	X	X	X	X	X	X	
Maine	X	X	X	X	X	X	X	X	X	X	X	X	X	
Maryland	X	X	X	X	X	X	X	X	X	X	X	X	X	
Massachusetts	X	X	X	X	X	X	X	X	X	X	X	X	X	
Michigan	X	X	X	X	X	X	X	X	X	X	X	X	X	
Minnesota	X	X	X	X	X	X	X	X	X	X	X	X	X	
Mississippi	X	X	X	X	X	X	X	X	X	X	X	X	X	
Missouri	X	X	X	X	X	X	X	X	X	X	X	X	X	
Montana	X	X	X	X	X	X	X	X	X	X	X	X	X	
Nebraska	X	X	X	X	X	X	X	X	X	X	X	X	X	
Nevada	X	X	X	X	X	X	X	X	X	X	X	X	X	
New Hampshire	X	X	X	X	X	X	X	X	X	X	X	X	X	
New Jersey	X	X	X	X	X	X	X	X	X	X	X	X	X	
New Mexico	X	X	X	X	X	X	X	X	X	X	X	X	X	
New York	X	X	X	X	X	X	X	X	X	X	X	X	X	
North Carolina	X	X	X	X	X	X	X	X	X	X	X	X	X	
North Dakota	X	X	X	X	X	X	X	X	X	X	X	X	X	
Ohio	X	X	X	X	X	X	X	X	X	X	X	X	X	
Oklahoma	X	X	X	X	X	X	X	X	X	X	X	X	X	
Oregon	X	X	X	X	X	X	X	X	X	X	X	X	X	
Pennsylvania	X	X	X	X	X	X	X	X	X	X	X	X	X	
Rhode Island	X	X	X	X	X	X	X	X	X	X	X	X	X	
South Carolina	X	X	X	X	X	X	X	X	X	X	X	X	X	
South Dakota	X	X	X	X	X	X	X	X	X	X	X	X	X	
Tennessee	X	X	X	X	X	X	X	X	X	X	X	X	X	
Texas	X	X	X	X	X	X	X	X	X	X	X	X	X	
Utah	X	X	X	X	X	X	X	X	X	X	X	X	X	
Vermont	X	X	X	X	X	X	X	X	X	X	X	X	X	
Virginia	X	X	X	X	X	X	X	X	X	X	X	X	X	
Washington	X	X	X	X	X	X	X	X	X	X	X	X	X	
West Virginia	X	X	X	X	X	X	X	X	X	X	X	X	X	
Wisconsin	X	X	X	X	X	X	X	X	X	X	X	X	X	
Wyoming	X	X	X	X	X	X	X	X	X	X	X	X	X	

added to list

Georgia

North Carolina

North Dakota

Wyoming

Wisconsin

	II. Site designation											Overall feasibility rating	Remarks and notes		
	Where made					Considerations									
	EIS on plan required	Establish geographic criteria, etc. for suitable sites	Planning measures for conservation of energy	Prior to and separate from application process	Attainment of prior approval	Not scientifically made	Impacts				Alternative sites			Suitability of sites	
							Environmental	Economic	Social	Other				In accordance with State standards, plans, etc.	Merely "classified"
Alabama	X	X	X	X	X	X	X	X	X	X	X	X			
Arizona	X	X	X	X	X	X	X	X	X	X	X	X			
Arkansas	X	X	X	X	X	X	X	X	X	X	X	X			
California	X	X	X	X	X	X	X	X	X	X	X	X			
Colorado	X	X	X	X	X	X	X	X	X	X	X	X			
Connecticut	X	X	X	X	X	X	X	X	X	X	X	X			
Delaware	X	X	X	X	X	X	X	X	X	X	X	X			
District of Columbia	X	X	X	X	X	X	X	X	X	X	X	X			
Florida	X	X	X	X	X	X	X	X	X	X	X	X			
Georgia	X	X	X	X	X	X	X	X	X	X	X	X			
Hawaii	X	X	X	X	X	X	X	X	X	X	X	X			
Idaho	X	X	X	X	X	X	X	X	X	X	X	X			
Illinois	X	X	X	X	X	X	X	X	X	X	X	X			
Indiana	X	X	X	X	X	X	X	X	X	X	X	X			
Iowa	X	X	X	X	X	X	X	X	X	X	X	X			
Kansas	X	X	X	X	X	X	X	X	X	X	X	X			
Kentucky	X	X	X	X	X	X	X	X	X	X	X	X			
Louisiana	X	X	X	X	X	X	X	X	X	X	X	X			
Maine	X	X	X	X	X	X	X	X	X	X	X	X			
Maryland	X	X	X	X	X	X	X	X	X	X	X	X			
Massachusetts	X	X	X	X	X	X	X	X	X	X	X	X			
Michigan	X	X	X	X	X	X	X	X	X	X	X	X			
Minnesota	X	X	X	X	X	X	X	X	X	X	X	X			
Mississippi	X	X	X	X	X	X	X	X	X	X	X	X			
Missouri	X	X	X	X	X	X	X	X	X	X	X	X			
Montana	X	X	X	X	X	X	X	X	X	X	X	X			
Nebraska	X	X	X	X	X	X	X	X	X	X	X	X			
Nevada	X	X	X	X	X	X	X	X	X	X	X	X			
New Hampshire	X	X	X	X	X	X	X	X	X	X	X	X			
New Jersey	X	X	X	X	X	X	X	X	X	X	X	X			
New Mexico	X	X	X	X	X	X	X	X	X	X	X	X			
New York	X	X	X	X	X	X	X	X	X	X	X	X			
North Carolina	X	X	X	X	X	X	X	X	X	X	X	X			
North Dakota	X	X	X	X	X	X	X	X	X	X	X	X			
Ohio	X	X	X	X	X	X	X	X	X	X	X	X			
Oklahoma	X	X	X	X	X	X	X	X	X	X	X	X			
Oregon	X	X	X	X	X	X	X	X	X	X	X	X			
Pennsylvania	X	X	X	X	X	X	X	X	X	X	X	X			
Rhode Island	X	X	X	X	X	X	X	X	X	X	X	X			
South Carolina	X	X	X	X	X	X	X	X	X	X	X	X			
South Dakota	X	X	X	X	X	X	X	X	X	X	X	X			
Tennessee	X	X	X	X	X	X	X	X	X	X	X	X			
Texas	X	X	X	X	X	X	X	X	X	X	X	X			
Utah	X	X	X	X	X	X	X	X	X	X	X	X			
Vermont	X	X	X	X	X	X	X	X	X	X	X	X			
Virginia	X	X	X	X	X	X	X	X	X	X	X	X			
Washington	X	X	X	X	X	X	X	X	X	X	X	X			
West Virginia	X	X	X	X	X	X	X	X	X	X	X	X			
Wisconsin	X	X	X	X	X	X	X	X	X	X	X	X			
Wyoming	X	X	X	X	X	X	X	X	X	X	X	X			

*Chart prepared by Thomas F. Kane, Congressional Research Service.

†The law only applies in the coastal zone and not where the Wetlands Act is in effect.

‡The law only applies to projects in the coastal zone and not where the Wetlands Act is in effect.

§The law only applies to projects in the coastal zone and not where the Wetlands Act is in effect.

¶Separate criteria are set for

*Site designation can only be made separately

*Site designation can only be made separately

TABLE 1111

Federal Energy Administration

NA - National Energy Policy Act of 1992
LAW - Law
FED - Federal Energy Regulatory Commission

Project Name	FEDERAL ENERGY COMMISSION										NA - NATIONAL ENERGY POLICY ACT OF 1992									
	FED	NA	15	16	17	18	19	20	21	22	FED	NA	15	16	17	18	19	20	21	22
1. Project Name																				
2. Project Description																				
3. Project Location																				
4. Project Status																				
5. Project Type																				
6. Project Size																				
7. Project Cost																				
8. Project Revenue																				
9. Project Profit																				
10. Project Loss																				
11. Project Break-Even																				
12. Project Payback																				
13. Project NPV																				
14. Project IRR																				
15. Project Risk																				
16. Project Sensitivity																				
17. Project Scenario																				
18. Project Assumptions																				
19. Project Data																				
20. Project Results																				
21. Project Conclusions																				
22. Project Recommendations																				

Legend: P - Permit

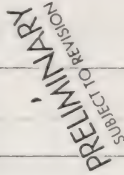
P - Permit, NA - National Energy Policy Act of 1992, 15 - 15, 16 - 16, 17 - 17, 18 - 18, 19 - 19, 20 - 20, 21 - 21, 22 - 22

A - National Energy Policy Act of 1992, 15 - 15, 16 - 16, 17 - 17, 18 - 18, 19 - 19, 20 - 20, 21 - 21, 22 - 22

M - National Energy Policy Act of 1992, 15 - 15, 16 - 16, 17 - 17, 18 - 18, 19 - 19, 20 - 20, 21 - 21, 22 - 22

B - Project is a major project which may require a major project

R - Distribution and use of resources (impact assessment)



APRIL 9, 1976

STATEMENTS OF HON. MICHAEL J. HARRINGTON, PANEL ON ON-SITE GENERATION, GORDON CULP, HON. FLOYD J. FITHIAN, COMMISSIONER DAVID SWEET, LOUIS J. CARTER, PANEL OF INDUSTRIAL CONSUMERS, AND PANEL OF CONSUMER ADVOCATES

(1225)

TESTIMONY OF MICHAEL J. HARRINGTON ON UTILITY RATE REFORM
 April 9, 1976 before the Energy and Power Subcommittee
 of the House Interstate and Foreign Commerce Committee

Mr. Chairman: Thank you for the opportunity to testify today on behalf of H.R. 12461, the Electric Utility Rate Reform and Regulatory Improvement Act. It is rare that a piece of legislation both correctly identifies a major problem and prescribes a rational structure for solving that problem. I commend the Committee, and its staff, for achieving both in H.P. 12461.

The most significant aspect of the proposed bill is that it recognizes that there has been a profound change in the nature of the electric utility business. Up until about five years ago, the basic goal of the electric utility industry was to provide abundant and reliable electric energy, and to encourage the increased use of electric power. To achieve this goal, utilities utilized promotional rate schedules, designed to reward the large user of power, and engaged in extensive advertising campaigns to sell the all-electric concept.

However, there were valid economic reasons for promoting the demand for electric power. Because of technological advances, economies of scale and low cost fuel, the long term marginal costs of electricity were declining. That meant that as demand increased and new capacity was built to meet it, the average cost to the utility fell. Therefore, the rate structure worked to the advantage of all the utility's customers. And unquestionably, the availability of abundant low-cost electricity contributed greatly to our industrial and economic growth. Some regions, most notably the TVA and Pacific Northwest benefitted greatly from low cost power. Other regions, most notably New England, have lagged behind in economic and industrial growth -- a lag created in part by high electric bills. However, in the past five years the situation has dramatically reversed itself. Long term marginal costs are no longer decreasing; rather they are increasing at an alarming rate. The reasons for the reversal are varied.

The limits of the economies of scale have been reached. Capital costs for all kinds of plants, especially nuclear, have skyrocketed. The 7-8% annual growth rate, which was manageable ten or twenty years ago, has created enormous capital pressures. At the same time, the number of environmentally acceptable sites have declined while our commitment to environmental protection has increased. Finally, of course, the cost of fuel has soared, and potential shortages of fossil fuel resources have created a crisis of international dimension.

This combination of problems is unlikely to improve in the future. From now on, marginal cost in the utility industry will be increasing and this means that we must redefine the goals for our power policy.

In order to be able to assure real economic growth, we must keep electric rates at the lowest possible level. Since plant costs are rising, this means we must get the most efficient use out of existing capacity. Neither the present structure of the industry or the rate structures of individual utilities are designed to most efficiently utilize our resources.

It has been argued by previous witnesses that state regulatory commissions, and not the federal government ought to be responsible for reforming the utility structure. I disagree.

While state regulatory commissions must have the flexibility to meet the special needs of the areas they serve, there should be minimum national standards. Otherwise, major industries will move to those states which permit utilities to give preferential treatment to large users. Such rates not only encourage the wasteful use of electricity, but also unfairly require the small user to subsidize the industrial user.

However, if all state commissions are required to set rates according to the real costs of providing power to their various customer classes, then we can achieve the goal of more efficient use of our resources without having to run the risk of losing industry.

While designing the most efficient rate structure is an important goal, we must realize that electricity is a necessity of life, and must be available to people at affordable rates. Conservation can help hold down the monthly electric bill, but many consumers, especially those on fixed incomes, have already cut out all unnecessary uses of power. They must be guaranteed the minimal of electric power they need to survive at rates they can afford. This legislation, by permitting regulatory commissions to fix special rates for subsistence levels of power usage, meets this need. Of course, we should make an effort to hold down power costs for all users, including industrial users. In my opinion, public power represents the best means of holding down total power costs, but that is a subject which should be discussed at another hearing.

H.R. 12461 also addresses what has become a national outrage -- the use and misuse of fuel adjustment charges. Perhaps no other single issue has ignited consumer outrage as the automatic pass-through of 100% of increased fuel costs. There is something inherently unfair about insulating the corporation from the effects of massive price increases by passing on the full increase to the consumer. Consumers correctly perceived that since the utilities had nothing to lose by higher fuel charges, their incentive to bargain for lower prices was seriously diminished.

Yet, as Chairman Moss's Subcommittee on Oversight and Investigations discovered in its excellent report, the utilities were not content to merely pass on 100% of increased fuel costs. Rather they attempted to pass through a variety of other expenses through the clause. By limiting the use of adjustment clauses, the proposed legislation takes an important step in restoring consumer confidence in the regulatory process.

The bill also addresses another major inequity by creating an Office of Public Counsel and providing legal and witness fees for consumer interveners. Having participated in a number of rate cases myself, I know the frustration of being unable to match the financial commitment of the private utilities. But without a balanced presentation of evidence, regulatory commissions are severely restricted in their ability to render a fair and equitable decision in the case.

As necessary as rate making reform is, I believe it is overshadowed in importance by the necessity to make basic changes in the structure of the utility industry. Today's utility system is designed to maximize profits, not to maximize the efficient use of our existing capacity.

In 1964, the Federal Power Commission published the National Power Survey, which severely criticized the power industry for failing to adequately interconnect its generating plants. The FPC estimated that full interconnection, by 1990, would save consumers at least \$2 billion a year and would eliminate the need to build up to 50,000 megawatts of new capacity by efficiently utilizing existing capacity.

We are now almost at 1980, and the level of coordination in the industry has progressed little since 1964. In fact, utilities have actively resisted a number of FPC proposals to interconnect facilities.

Nor, under the existing law, can utilities be required to transmit power when it would be in the public interest to have them do so.

During the Arab oil embargo, New England's oil fired utilities were forced to purchase Mid-Western coal fired excess capacity. The actual cost was actually less than the cost of New England's utilities generating the power themselves.

Yet, once the embargo eased, New England's utilities immediately discontinued the purchase of Mid-Western power. The FPC, for its part, permitted utilities along the transmission route to charge exorbitant surcharges on the power transmitted through its system, thereby enriching their stockholders at the expense of New England consumers. The FPC also maintained that it did not have the statutory authority to order the transmission of excess capacity--an assertion which is being challenged in the Court of Appeals, by the Richmond, Indiana Municipal Utility and myself.

As I understand Sections 301 and 302 of H.R. 12461, they would give the FPC full authority to order economical transfers of power.

Title V of the Act deals with still another major issue of national importance -- long term planning and siting of power facilities. Under the existing system, all decisionmaking regarding future power supplies is being done by private utility companies. Public oversight of the process is largely limited to approving the construction of individual plants. But even within this narrow context, regulatory commissions are restricted in their ability to regulate, since they lack the resources and expertise to propose alternatives to the utilities' decisions.

However, in my opinion, Title V continues the weakness of the present scheme of regulation by leaving initial power plant siting and planning decisions in the hands of the individual utilities. While the concept of limiting the voting membership of the regional councils to the public members is an excellent one, it still leaves the regional planning councils in a reactive, regulatory role rather than an active planning status.

In my opinion, the legislation could be significantly improved by giving the planning councils the initial responsibility for designing the master plan and locating sites and then permitting the individual utilities to comment on the decisions. This, of course, would call for major staff and financial commitments to the regional councils, which could be achieved by the levy of an assessment on each of the utilities in the region.

Finally, I would like to suggest one addition to the Act -- an addition which supplements the underlying philosophy of the legislation. A major source of the electric power problem is the divergence between the perceived goals of the individual utility companies, and the perceived public interest.

In part, this is due to the makeup of the boards of our private utilities. They are largely composed of men from the financial and investment community. About 35% of the boards of directors of utilities are commercial bankers, and well over half are representative of other financial institutions such as insurance companies and investment companies. Directors of large industrial companies also are well represented on utility boards. Consumers are unrepresented on utility boards.

The Federal Power Act and the Public Utility Holding Company Act both contain prohibitions on interlocking directorates between banks and utility companies. But they are full of loopholes and haphazardly enforced.

In order to remedy this situation, Senator Lee Metcalf and I introduced H.R. 11330, which prohibits interlocks between utility company boards and boards of financial institutions, fuel suppliers, and equipment suppliers. It also requires every utility subject to the jurisdiction of the FPC to have at least one representative of residential consumer interests on the board of directors as a full voting member.

While a public representative will not result in any dramatic change in the outlook and operations of the utilities, it will at least constitute a recognition of the fact that there is a significant public interest in the provision of electric power, and would provide some access to the internal decisionmaking process of the utility companies.

In conclusion, I would like to once again commend the Committee for drafting an energy bill of significant importance. The goal which we all share is the provision of adequate electric power at the lowest possible cost. This is vital to our economic health.

But this legislation recognizes that in order to hold down our future power costs we must make the most efficient use of our present and future powerplants.

By encouraging energy conservation, we will not only lower the electric bills of those who conserve, but the power which they are no longer wasting will be available to be used in new homes and factories. This is real economic growth. This is the goal toward which we must work, and this legislation provides an important step toward that goal.

PANEL ON ON-SITE GENERATION AND COGENERATION

STATEMENTS OF HARVEY A. CAMPBELL, EDWARD A. MYERS, JR.,
AND JACK B. OWENS

TESTIMONY OF

HARVEY A. CAMPBELL
VICE PRESIDENT, CHEMICALS DIVISION
VULCAN MATERIALS COMPANY

BEFORE THE

U. S. HOUSE OF REPRESENTATIVES
COMMITTEE ON INTERSTATE AND FOREIGN COMMITTEE
SUBCOMMITTEE ON ENERGY AND POWER

INTRODUCTION

My name is Harvey A. Campbell. I am Vice President of the Chemicals Division of Vulcan Materials Company. Vulcan Materials Company is the nation's leading producer of construction aggregates, secondary aluminum, and detinned steel scrap. The Chemicals Division manufactures chlorine, caustic soda, and a diversified line of chlorinated solvents.

I appreciate the opportunity to address this subcommittee today concerning H.R. 12461. Energy costs and availability is certainly one of the most critical problems facing our country today. For Vulcan Materials, almost half of the Chemicals Division's manufacturing costs is used to purchase energy.

H.R. 12461 is duly concerned with the rapid increase in utility rates and the many problems confronting the utility industry. However, many of the conclusions reached, as implied by various sections of the proposed bills, are erroneous. The proposals concerning rates and rate regulation will introduce additional confusion, delays and costs into rate making.

While state regulatory commissions and their staff are in many cases overworked, providing funds for bigger staffs is not necessarily the best answer. Streamlining of federal and state regulatory procedures and requirements would be of much greater benefit. The proposed Electric Utility Rate Making Assistance Office will be less knowledgeable about the individual state and utilities problems than the state commissions and will help to further confuse the rate-making process.

State commissions now permit anyone to intervene on a utility rate increase request. To further finance and encourage individuals to not only intervene but to also seek judicial review as proposed by H.R. 12461 will further hamper and delay regulatory procedures. The already long regulatory lag in reaching decisions greatly contributes to the increased number of rate increase requests.

The price of electricity and fuel has increased rapidly during the past few years and is expected to continue increasing. The American public needs to better understand the facts and to also recognize that our energy costs are still much cheaper than in other developed nations. Coal and nuclear power plants are less reliable and more expensive than gas fueled plants because of more complex equipment, inflation, regulatory requirements, and environmental restrictions.

UTILITY RATES

During the decades of the 1950's and 1960's, the price of electricity in the United States generally declined. Utility companies were growing rapidly, consumption was increasing, and the cost per kilowatt hour kept going down. Then the utilities were hit by a multitude of problems - high interest rates, high inflation, shortage of natural gas, high construction costs, rapidly increasing fuel costs, conservation, and environmental restrictions.

There began what appeared to be continual utility rate increases and these, along with the sharp rise in fuel costs, have greatly increased the cost of electricity. There is a general lack of understanding of rate structure and cost of service, and numerous rate changes have been proposed to avoid or reduce the increase in rates to the small customer. To make matters worse, the American public has long developed wasteful habits and a way of life indifferent to conservation.

Promotional and Flat Rates

Much talk has been generated about "promotional" utility rates wherein rates decline with increased usage. Such rates are not promotional if they are based on costs of service. Proper allocation of generating, transmission, distribution, and customer costs will lead to rate schedules wherein the average price per kilowatt hour declines with increased use.

Flat rates have been proposed, but a flat rate per kilowatt hour is manifestly unfair. Such a rate would mean that the high load factor customer, the one that uses the utility capacity most efficiently, would subsidize the low load factor customer, the one that uses the utility capacity least efficiently. Rate schedules should be based on costs of service and generate revenue sufficient to recover costs plus a reasonable rate of return. Actually,

as the cost of fuel climbs and becomes a greater proportion of the total cost, flat rates are being approached.

Subsistence or Lifeline Rates

"Subsistence" or "lifeline" rates have been adopted by a few states wherein the first block of power to residential customers is at a low rate, perhaps far below the cost to serve. Such a rate is politically and economically wrong. It is an inefficient means of attempting to provide welfare, and subsidizes the rich as well as the poor. It forces rate making to become more political and forces utility companies to become dispensers of social welfare. Perhaps worst of all, it misleads the small consumer into believing that he is forever entitled to cheap energy. Yet, this is a time when candid, reliable education of the public is needed more than ever.

Regulatory bodies adopting lifeline rates are then doing what they were created to prevent, the establishment of discriminatory rates. At the present time, the minimum residential rates for most utilities is already less than the cost of service.

Time-of-Day Pricing

Time-of-day pricing, which is being attempted in a few areas, makes sense theoretically as long as it is based on costs. Since industrial customers have higher load factors and utilize more of the off-peak time than residential customers, time-of-day pricing based on reliable cost studies would result in lower rates for industrial customers. However, the metering necessary for residential and commercial customers to permit proper time-of-day studies and pricing is not available. A major question is whether or not the large investment and additional metering equipment is economically practical.

Marginal Cost Pricing

Marginal cost pricing has been proposed as a long-term solution to electrical rates. Rather than basing rates on actual cost, projections of long-range cost would be used which would undoubtedly increase utility rates now. Such a pricing approach is impractical. Every individual would differ in estimating "long-range cost" ten years away. A review of long-range projections made in the past five years by various utility companies for growth, capital investment, fuel costs, and other costs will quickly show how chaotic marginal cost pricing can become. These projections have been drastically revised and re-revised in the past several years.

Fuel Adjustment

Automatic fuel adjustment is a reasonable approach to recovering the increased cost of fuel to the utility company. Refinements in procedures and periodic review by the state regulatory commissions is reasonable. However, requiring specific rate increase requests rather than automatic fuel adjustment will further jeopardize the economic well-being of the utility companies and will add to the work load of already overburdened regulatory commissions.

Industrial Rates

Before the large increase in fuel costs and the many rate increases, industrial electric rates throughout the country were generally about 50 percent of residential rates. Those who do not understand costs of service or rate of return feel that this is unfair, yet the reverse is more often true. The rate of return to the utility is usually greater on industrial business at the lower rates than on residential business at the higher rates. Industrial rates are lower because the cost to serve industrial customers is lower than the cost to serve residential customers.

To cite a simple example, if one electric customer is using his peak demand 90 percent of the time (90 percent load factor) while a second customer is using the same demand only 30 percent of the time (30 percent load factor), the same fixed costs, the same customer costs, and the same operating costs (excluding fuel) are generally required by the utility for each of these customers. Since the 90 percent customer is using three times as many kilowatt hours as the 30 percent customer, the unit cost or the cost per kilowatt hour to serve the 90 percent customer (excluding fuel) is only one-third the cost to serve the 30 percent customer.

If the 90 percent customer is taking power at high transmission voltage, then the large investment for distribution facilities to serve customers at low voltages should not be charged against the 90 percent customer. These distribution facilities may represent 25 percent or more of the capital investment of the utility company. In such a case, the 90 percent high voltage customer should be charged with one-third times three-fourths equals one-fourth, or 25 percent of the capital, operating, and customer charges (excluding fuel) per kilowatt hour consumed that should be charged to the 30 percent low voltage customer. Besides the much lower fixed costs per kilowatt hour, the fuel consumed for the high voltage customer is also several percent less because losses in the distribution system are not chargeable to the high voltage customer. This simple example helps to explain why industrial rates properly should be much lower than residential rates - because the costs to provide the service is much lower. The common denominator should not be costs per kilowatt hour but should be the rate of return to the utility company on investment required to serve each customer.

In addition to the example cited, the large industrial customer often has additional restrictions in its rate schedule such as minimum allowable

power factor. The industrial customer has to install his own distribution system within his plant which may cost millions of dollars.

Industry is often accused of being a great waster of power because it is a large user of energy. In a broad sense, industry does not consume energy but invests or converts it into another form or product. For example, in producing chlorine and caustic, my company is actually using electricity as a raw material. At the high cost of energy today, industrial consumers certainly cannot afford waste.

Large manufacturers with high load factors are very desirable to any electric utility. They provide a good base load, increase the system load factor, and are a continuous source of revenue. High load factor industrial customers are the most efficient users of the system, yet these are the very customers that discriminatory increases are often aimed at because of a lack of understanding of costs of service. Industry is vital to the community and to the economy of the country. Certainly, industry should pay its fair share as determined by costs of service studies; however, it should not be penalized in a discriminatory fashion. When faced with discriminatory utility rates, industry is forced to curtail operations, relocate its plants, or generate its own power. If industrial customers are forced to leave a utility system, then that utility's problems with load factor, revenues, and return, and the resulting burden on small electrical customers will become much greater.

Industry, especially high load factor industry, has unjustifiably borne a major share of rate increases and costs passed on by fuel adjustment clauses. For example, the cost of electricity to industrial customers of Public Service Electric and Gas in New Jersey over the period of 1966-73 increased at more than twice the rate of increase to residential customers. During this period,

the cost per kilowatt hour increased 27 percent for residential customers, 23 percent for commercial customers, and 57 percent for industrial customers. For Vulcan Materials, a large industrial customer with the highest load factor in Public Service's system, the increase was 76 percent over this same period. Power costs accelerated rapidly throughout 1974 such that in early 1975 the average cost per kilowatt hour for Vulcan was double the average cost for 1973. Because of such high electrical rates, this chemical plant had to be permanently shut down.

Actual Costs of Prime Importance

Whatever else is done in the area of utility pricing, rates should be based on actual cost. Utility companies must control and be held accountable for those costs. If utility rates are not based on actual costs, the wrong decisions will be made by the utility companies, their customers, and regulatory commissions. The long-term results will be to the detriment of the utilities, their customers, and the nation as a whole. If uneconomic electrical rates should force industry to desert the utility companies, residential and commercial rates will greatly increase.

UTILITY INDUSTRY IMPROVEMENTS

Tighter Cost Control

While many of the problems that have occurred during the last number of years were beyond the control of the utility companies, there is much that they can and should do. The climate has vastly changed and the utility company's thinking, philosophy, organization, and operations should change with it. New answers must be sought if the utilities industry is to remain healthy. The utility companies must more carefully evaluate their costs, number of employees, free services, and promotional activities. They must become more efficient and tightly control all costs. Services previously supplied to customers without charge must be eliminated, reduced, or charged for.

Better Planning and Coordination

Generating capacity must be carefully evaluated. Most of the large increased investments for utilities is to construct additions to generating capacity to meet peak demands that occur only a fraction of the time. A utility's average load factor is often around 50 percent. With utilities attempting to build generating capacity so as to have 15-20 percent excess over and beyond the maximum peak demand which occurs only a percentage of the time, it is readily obvious that a large portion of their capital investment is sitting idle, earning no return the vast majority of the time. Construction programs must therefore be carefully planned and other alternatives sought.

Improved coordination among utility companies for construction of generation and transmission facilities should be encouraged. Standard engineering designs for different capacity generating plants could be developed by the

utility industry and made available to an individual utility when needed. This would significantly decrease the cost and time required to engineer a generating plant.

Load Management

Load management opportunities should be pursued. Rate schedules which provide for peak shaving sale of power should be encouraged. Large industrial customers on such rate schedules would curtail an agreed upon quantity of power at the utility's option for relatively short periods of time to shave peaks or accommodate shortages of generating capacity. Increased insulation in houses and buildings and use of solar energy for heating and air conditioning would also help to reduce peak demands of the utility companies. With lower peaks much capital construction could be avoided, load factor would increase, and average costs of generation would be reduced.

Peak shaving rate schedules must be sufficiently low to attract industrial customers who will generally have to install additional capital investment themselves in order to operate at higher rates when the electricity is available so that the industrial company can cut back when power is unavailable but still meet its production schedule for the year.

Taxation

Utilities are becoming ever greater collectors of federal and state taxes at a faster rate than most companies because they are so capital intensive. As additional facilities are added and inflation raises the cost of construction, real estate taxes increase. Payroll taxes continue to increase every year. Gross receipt taxes on total revenues go up (in those states where applicable) whenever gross revenues go up for any reason, be it rate increases or the large increase in fuel costs that have been experienced in the last

number of years. As utilities investment or rate base increases, greater net income is necessary for the same percentage return on investment.

As additional rate increases are placed into effect to pay for the above taxes plus increased operating expenses and provide an increased return on an inflated rate base, then income tax also increases. Each dollar of additional net income after taxes usually requires an additional dollar or more for taxes. In New Jersey, which has a gross receipts tax, the utility company had to obtain \$2.22 over and above increased costs for the utility company to net \$1.00 after gross receipts and federal income tax. In Kansas, the utility company must collect \$2.06 over and above costs to net \$1.00 after state and federal income taxes.

Thus, in addition to the effort to push utilities to become welfare agencies, utility companies are becoming more and more collectors of taxes, which places an unfair burden on the companies, their customers, and the regulatory commissions. Recognition of these problems and corrective legislation such as greater investment tax credits or lower income tax rates for utilities should be considered.

Cogeneration of Steam and Electricity

Cooperation between utilities and other industries in producing steam and electricity should be encouraged since this represents one of the better answers to our country's energy problems. There are many problems - economic, regulatory and managerial - in obtaining this cooperation. Utilities normally produce steam which is run through turbines driving electric generators. Steam leaving the turbines is condensed with cooling water and returned to the boiler. Thus a major part of the heat developed in the boiler is lost to a cooling tower or pond and results in "thermal pollution." Overall, the thermal efficiency is only about 35 percent. Industry, on the other hand,

produces steam also but uses its heat for processing a wide variety of products. In most cases, none of the steam is used to generate electricity.

If steam as well as electricity were sold to an industrial consumer, capital investment and fuel consumption should be reduced and the utility company would realize increased revenue. There are already several places throughout the country where such utility and industrial cooperation takes place, but it is indeed unfortunate that this practice is not more common. Large fuel savings, decreased capital investment and less pollution throughout the country would be possible. In the future, utility companies and industry should seek existing opportunities for cooperation and plan future opportunities by installing power plants and industrial plants close together so that the sale of steam as well as electricity by the utility will be practical.

For the past two years, Vulcan Materials Company has been working with the electric utility and several other industrial companies located at Geismar, Louisiana, which is 25 miles south of Baton Rouge. This group has been investigating the feasibility of a common industrial power plant to produce steam and electricity. The energy required by this complex is large. By 1980, the estimated demands are four million pounds per hour of steam and 450,000 kilowatts of electricity. Various alternatives for supplying these energy requirements are being considered. Capital investment for such facilities that are nuclear or coal based are very large compared to oil- and gas-fired equipment. Energy requirements and timing needs differ for each of the companies. Economic evaluation by each company is different. All agree that gas will become unavailable and that coal represents a long-term answer; however, oil might be a more economic fuel for many years, especially with the large difference in capital investment. Nuclear might be the best answer if

such a plant could be built in four or five years. However, when industrial management is looking at an investment that will take 10-15 years in today's environmental and inflationary climate, a nuclear plant is out of the question.

Gasification of high sulfur coal or high sulfur refinery residues are also being investigated. The gas could be used to fuel gas turbine generators followed by waste heat recovery boilers. Such a plant has much greater flexibility in terms of the quantity of electricity that can be produced per unit of steam, compared to a fossil-fueled steam plant feeding non-condensing steam turbine generators. The capital cost of gasification plants is quite high and much development work is presently in progress. Besides supplying a clean gaseous fuel, these gasification plants can also supply a synthesis gas suitable for production of ammonia and methanol.

Various preliminary engineering and economic feasibility studies have been made for the Geismar industrial power plant. We are presently trying to better define the long-term requirements of the individual companies and will then attempt to optimize an engineering design to meet those requirements. Because of the high capital investment, the initial approach will be to install expansion capacity first rather than replace existing capacity. Other studies will be made to determine how such a facility can best be financed. Should it be a joint venture of the companies involved? Should it be leased from outside investors? Should the electric utility company own and/or operate? How should it be organized? What are the tax and regulatory implications?

Many questions remain to be answered. Until the industrial companies determine to the satisfaction of each company's management that such a project is a viable economic opportunity, then the decision will be delayed for

further study. Special tax incentives because of fuel conservation and a favorable regulatory climate would help to encourage these types of projects.

CONCLUSIONS

In conclusion, there is much that should be considered to help solve the many problems of the utility industry.

1. Whatever else is done, utility rates should be based on actual cost of service. Only then will proper decisions be made that will not create greater problems long-term.
2. Candid, reliable education of the public is needed to improve understanding of rates, cost of service, and energy conservation.
3. Rate regulation should be left to the individual states. General guidelines established for the entire country may not be compatible with the many individual utility problems in the various states.
4. Use of the utility industry as a dispenser of welfare should be carefully avoided. The American public should not be misled into thinking that energy will remain relatively cheap.
5. Tax revisions for utility companies should be considered so that they do not become ever greater collector of taxes for federal and state governments.
6. Red tape and regulatory lag in siting and constructing generating plants should be reduced. This greatly adds to costs with delays, increased problems and inflation.
7. Environmental guidelines should be re-evaluated. We must protect the environment and maintain quality of life, but billions of dollars should not be wasted needlessly. Value analyses should be made and cost/benefit ratios determined. The vast expenditures required for environmental control should be justified.
8. The utility industry should consider standard engineering designs for various generating plant sizes to reduce engineering costs and construction time.

9. Load management techniques should be constantly sought and implemented, such as peak shaving rates, ripple control, increased insulation and use of solar energy for air conditioning and heating.
10. Cooperation of utilities with other utilities and with industrial companies should be encouraged in the areas of interchange of power, pooling, joint ventures, and co-generation of steam and electricity. Regulatory restraints on such cooperation should be eliminated. Power plants should be encouraged to locate adjacent to large steam consumers.

ABOUT THE WRITER

Harvey A. Campbell joined the Chemicals Division of Vulcan Materials Company in 1971 as Vice President of Manufacturing responsible for operation of all Chemicals Division plants located at Denver City, Texas; Geismar, Louisiana; Newark, New Jersey; and Wichita, Kansas. In May, 1974, he became Vice President, Facilities and Planning responsible for Engineering, Research and Development, energy, conservation, environmental control, and utility rates and supply.

Mr. Campbell has appeared before various federal and state agencies concerning energy, environment and utility rates in Kansas, Louisiana, New Jersey, New York, Texas and Washington, D. C. He has negotiated numerous utility contracts for various locations and is working on industrial plants to jointly provide steam and electricity for industrial customers in cooperation with electric utilities. He has had 24 years experience in management, manufacturing, process design, engineering, economics, planning and finance. Prior to joining Vulcan he was employed by Atlantic Richfield Company, Sinclair Oil Corporation, Texas Butadiene & Chemical Corporation and Celanese Corporation. He has worked at various manufacturing plants, division offices and corporate offices located in Kansas, Louisiana, New Jersey, New York, Texas and West Virginia.

Mr. Campbell is a chemical engineering graduate of the University of Texas and a registered Professional Engineer in Texas. He is currently a member of the American Management Association, National Management Association, American Institute of Chemical Engineers, Kansas Association of Commerce and Industry, Wichita Chamber of Commerce, and Rotary International.

STATEMENT OF EDWARD A. MYERS, JR., VICE PRESIDENT

SOUTHERN CALIFORNIA EDISON
COMPANY

BEFORE
THE SUBCOMMITTEE ON ENERGY AND POWER
OF THE
HOUSE INTERSTATE AND FOREIGN COMMERCE COMMITTEE

APRIL 9, 1976

TABLE OF CONTENTS

- I. INTRODUCTION
- II. EDISON SERVES NEARLY EIGHT MILLION PEOPLE
- III. REGULATION
- IV. REGULATORY POSITION IN CALIFORNIA
- Va. EDISON'S ENERGY CONSERVATION PROGRAMS
- Vb. EDISON'S LOAD MANAGEMENT PROGRAMS
- VI. GENERAL PROBLEMS OF THE ELECTRIC UTILITY INDUSTRY
- VII. SPECIAL PROBLEMS OF CALIFORNIA UTILITIES
 - A. OIL AND GAS
 - B. AIR POLLUTION
 - C. LIMITED ALTERNATIVES
- VIII. ON-SITE GENERATION AND THE ELECTRIC UTILITY INDUSTRY
 - A. HISTORY
 - B. PRESENT STATUS
- IX. WHAT IS ON-SITE GENERATION AND WHAT MAKES IT FEASIBLE
- X. WHAT DOES THE UTILITY INDUSTRY THINK OF ON-SITE
- XI. WHAT DOES AN INDUSTRIAL FIRM SEEK IN ON-SITE
 - a) LOWER UTILITY BILLS
 - b) ADVANTAGES OF UTILITY BACKUP FOR RELIABILITY
 - c) WHEELING/COMBINED METERING
 - d) AIR/WATER POLLUTION CONTROL
 - e) ENERGY WASTE RECAPTURE

- XII EDISON'S RESPONSE TO ON-SITE REQUESTS
- XIII ON-SITE PLANTS IN EDISON SERVICE TERRITORY
- XIV IMPLICATIONS OF HR 12461
- XV SUMMARY AND CONCLUSION

STATEMENT OF EDWARD A. MYERS, JR.
VICE PRESIDENT
SOUTHERN CALIFORNIA EDISON CO.
BEFORE
THE SUBCOMMITTEE ON ENERGY AND POWER
OF THE
HOUSE INTERSTATE AND FOREIGN COMMERCE COMMITTEE

APRIL 9, 1976

I. INTRODUCTION

My name is Edward A. Myers, Jr. I am a Vice President of Southern California Edison Company (Edison), one of the largest producers of electric energy in the United States. My area of responsibility includes, conservation, corporate communications and revenue requirements. Edison is an investor-owned electric utility, as distinguished from those utilities which are government-owned or those which serve both gas and electricity. Because of its size and geographic location, Edison is also one of the nation's largest utility oil consumers, and depending on the yardstick you use is ranked somewhere between second and fourth in the nation in number of customers, electric capacity, kilowatthours sold, revenues or geographical area served.

With rapidly fluctuating utility costs, such as fuel costs, record high cost of capital, escalating construction costs, uncertain but increasing environmental protection requirements and unstable regulatory attitudes toward ratemaking, continued utility health depends upon many variables but certainly includes major conservation efforts, elimination of energy waste and conversely the utilization of every feasible recapturable energy output, and the efficient operation of an intertied system. In general the capital problems of utilities are an overriding concern of the consideration of on-site generation and recognition by the utility that every effort must be made to avoid the need for expansion of generating capacity if at all possible.

It is the purpose of my testimony to present general background information on Edison, the reasons why the industry in our area has such a high dependence on foreign source fuel oil; an overview of the history of on-site generating and other competition to electric utility generation; the conditions necessary to make on-site generation in parallel with the utility system operation feasible; a statement of the utility industry's attitude toward on-site generation and a brief look at Edison's long standing energy conservation and load management programs, including a review of Edison's experience in promoting on-site generation.

II. EDISON SERVES NEARLY EIGHT MILLION PEOPLE

Edison is a California Corporation providing essential electric service to about eight million people in a 50,000 square-mile service territory located in central and southern California.

In the generation, transmission and distribution of electricity, Edison utilizes hydro-electric plants, a nuclear powered plant, and coal fired plants, as well as other fossil fuel plants required to burn domestically-refined foreign-source low sulfur residual fuel oil and, when available, natural gas.

A six-year comparison of kilowatt-hour consumption and percent of consumption by class of service for Edison is as follows:

	1975	1974	1973	1972	1971	1970	1965
CLASS OF SERVICE — kwh (000):							
Residential	13,493,387	13,059,518	13,532,182	12,933,823	12,282,627	11,154,475	7,144,396
Agricultural	1,074,606	1,049,878	974,477	1,279,186	1,124,016	1,151,937	1,085,069
Commercial	12,036,129	11,514,671	12,523,975	12,043,940	11,005,051	10,117,880	5,940,029
Industrial	15,055,646	15,553,144	16,423,255	15,742,819	15,240,925	14,961,496	10,539,176
Public Authorities	5,578,669	5,575,587	6,098,515	5,909,942	5,211,405	4,833,181	3,046,388
Interdepartmental	962	927	813	797	599	685	261
Resale (a)	4,088,109	4,336,256	4,539,717	4,399,399	3,991,870	3,661,422	2,372,821
Total Energy Consumption	51,327,508	51,089,981	54,092,934	52,309,906	48,856,493	45,881,076	30,128,140
CLASS OF SERVICE — PERCENT							
Residential	26.3%	25.6%	25.0%	24.7%	25.1%	24.3%	23.7%
Agricultural	2.1	2.1	1.8	2.5	2.3	2.5	3.6
Commercial	23.4	22.5	23.1	23.0	22.5	22.1	19.7
Industrial	29.3	30.4	30.4	30.1	31.2	32.6	35.0
Public Authorities	10.9	10.9	11.3	11.3	10.7	10.5	10.1
Resale (a)	8.0	8.5	8.4	8.4	8.2	8.0	7.9
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

(a) Includes kilowatt-hour sales to other electric utilities and to cities or other public authorities for distribution to ultimate consumers. Among the resale customers are the cities of Anaheim, Azusa, Banning, Corona, Riverside and Vernon and the Anza Electric Cooperative.

It should be pointed out that past and present government actions and policies largely have shaped the generation and fuel mix with which Edison today supplies its customers. Future supplies also will depend upon various levels of government and their attitudes toward land use, plant siting, utilization of coal and expansion of nuclear technologies which is presently under serious threat in California.

Any on-site operations on any utility system will be approved by regulators only if system service to all ratepayers is in no way disadvantaged.

III. REGULATION

Edison is subject to regulation as a public utility by the California Public Utilities Commission (CPUC) which has the jurisdiction, among other things, to establish retail rates, to regulate service, security issues, and accounting, and to approve all special contracts with retail customers,

including on-site and parallel generation and the standby charges associated therewith. The Federal Power Commission (FPC) regulates resale rates and various other matters, including accounting practices, which approximates 7% of our total business.

All power plants proposed by utilities or industry for development along the California coast must also meet the specific plant siting policies adopted by the California Coastal Zone Conservation Commission which were recently forwarded to the California legislature for approval.

The California State Energy Resources Conservation and Development Commission has certain concurrent jurisdictional responsibilities. They also must approve all power plants proposed to be located on the coastline or that are larger than 50MW in size. The Commission does, however, have regulations which permit projects ranging from 50MW to 100MW, under certain conditions, to be exempted from its jurisdiction to affirm its support of the economical use of waste heat from existing industrial facilities and to speed up the approval process.

IV. REGULATORY POSITION IN CALIFORNIA

The California Public Utilities Commission (CPUC) in Decision No. 85559 (March, 1976) specifically ordered Edison to cooperate with and evaluate waste heat proposals to be submitted by eight large industrials, most of whom are cement companies. In addition, we are required to submit to the CPUC by July, 1976 status reports on existing waste heat electric generating plants and utilization of waste heat from our own generating facilities for industrial or commercial purposes. The utility commissions, utilities and industry have already responded to the economical use of waste energy resources and are actively working together toward solutions of mutual problems.

The California State Energy Resources Conservation and Development Commission at a recent meeting proposed regulations whereby small power plants ranging between 50 and 100 MW in size may be exempted from the site certification procedures of the Commission. Following is the Commission's "Statement of Purpose" which outlines their basic intent regarding expediting the siting approval process within their jurisdiction:

"It is the policy of the State Energy Resources Conservation and Development Commission to promote the development of electric energy supply technologies that prudently conserve and economically use energy resources. Utilization of waste heat from existing industrial facilities to generate electricity and utilization by industry of waste heat from power plants are

two such technologies which are presently available. A major purpose of these regulations is to encourage the use of those technologies by expediting the procedures necessary for the approval of waste heat utilization plans."

Va. EDISON'S ENERGY CONSERVATION PROGRAMS

The Edison Company, as early as 1971, convinced that conservation is a personal bullet every American must bite, began to put increasing emphasis on moderating the rate of growth in consumer demand. At that time we set the stage for a strong energy management and individual conservation effort. We enjoyed our maximum successes in conservation when, triggered by the Arab Oil Embargo of October, 1973, and the attendant publicity, the public became convinced of the validity of our continuing conservation messages and undertook positive actions to conserve.

We believe we have been highly successful with our Conservation Program. However, with the passage of time there is a tendency for customers to revert to former consumption patterns. To stem this tendency, Edison in late 1975, filed with the California Public Utilities Commission six new conservation programs directed towards the objective of maintaining and/or improving already achieved conservation results through a broadening of Edison's Energy Management Programs. These new supplemental programs, now in the implementation stages, add to our current residential conservation programs, expand our commercial programs, intensify our communications influencing residential and commercial customer usage and supplement our long standing, highly effective energy management programs directed to industrial customers.

It is estimated these new programs successfully implemented could lower Edison's anticipated future annual kilowatthour sales by as much as 180,000,000 for residential and 130,000,000 for commercial.

One of our new residential programs is a "Solar Water Heating Demonstration/Publicity Program." This program is designed to substitute some solar energy for only that new electric water heating that is currently being connected to our lines and thereby reduce the need for system electricity.

The program's objective is to focus on 1,250 potential new electric water heaters and encourage the installation of solar water heating systems incorporating electric back-up only. We estimate this will save approximately 70 percent of the energy that would normally be used by these new loads (nearly 4,000,000 kWh annually).

The publicity received by these installations is expected to result in encouraging other customers to install solar water heating systems.

With Edison warranting the installation and subsidizing the maintenance for ten years, much of the customer reluctance to try something new should be overcome.

In short, Edison has intensified its conservation efforts placing emphasis on programs that interface with industrial and commercial customers regarding effective energy management and on consumer education programs for residential users.

Vb. EDISON'S LOAD MANAGEMENT PROGRAM

Edison has a "Peak Demand and System Capacity Factor Management" committee charged with the responsibility to identify and delineate policies and procedures that will result in modifying our peak demand to better optimize the Company's ability to serve the maximum number of customers for a maximum amount of time, while reducing commitments in construction optimizing fuel inventories, and maintaining a strong and viable financial structure.

This committee has explored potential system peak demand reductions for the years 1980 and 1985 and a cost and time table to provide for testing and system-wide implementation of the various load management techniques. Peak demand management technique considerations include time-of-use rates, interruptible and seasonal rates, domestic water heater test and the installation of demand controllers, and air conditioning demand limiters on customer controlled equipment. This list is not exhaustive by any means, but merely a representative sampling of the variety of load management techniques Edison is presently working with.

Regarding system capacity factor management, we are reviewing our generation reserve planning criteria, investigating the possibilities of increased interconnections with other systems, and exchange capacity agreements, mandatory load reductions, and further liberalization of the Company's co-generation philosophy.

As energy costs continue to increase, industrial customers are becoming increasingly aware of the need to improve the energy efficiency of their processes. Customers, in evaluating the feasibility of on-site generation, must also consider the effects of lifeline and time-of-use rates. The revenue deficiency caused by providing lifeline service is to be made up from primarily commercial and industrial classes of service. These subsidies, together with time-of-use rates, charging more for service used during a utility's peak period, will, on the surface, tend to make on-site generation look more promising. Thus, Edison expects an increase in the number of proposals for co-generation ventures.

VI. GENERAL PROBLEMS OF THE ELECTRIC UTILITY INDUSTRY

The financial condition of the electric utility industry has been deteriorating steadily in recent years. With many companies it has clearly reached crisis proportions.

In general, Edison shares many of the problems which the electric utility industry is currently experiencing. Paramount among such problems is the problem of prompt reflection in charges to cover the utility's increased operating costs in the face of (a) rapidly increasing costs of fuel, wages, and materials; (b) vast capital outlays due to rapidly escalating construction costs and longer construction periods for the larger and more complex new generating units needed to meet current and future service requirements of customers; (c) greater reliance on external financing in capital markets with increased annual cost levels and limited availability of both equity and borrowed capital; (d) declining supply of natural gas; (e) effects of compliance with numerous regulatory and environmental requirements; and (f) effects of conservation efforts in the use of energy.

The electric utility industry is extremely capital intensive in that it generally requires from \$3 to \$5 of plant investment for each \$1 of annual revenue compared to other industries which typically invest a dollar or less per dollar of sales. Recently the figure has been more nearly \$2 of plant for \$1 of revenue for Edison because of the dramatic increases in fuel costs. Inflation also has more of an adverse impact on

the electric utility industry because of the long life characteristics of its plant and property.

Utilities are reluctant to invest in the small plants typical of an industrial on-site operation, and industrials are accustomed to higher returns on capital than that associated with electric utility operations.

Public utilities have been having serious financial difficulties for the last several years, due in part to some or all of the above listed circumstances. Moreover, during the last few years, there has been an increasing lack of investor interest in electric utility stocks even though many such stocks have been selling at less than book value. Many electric utilities have been de-rated with regard to their senior securities and have as a result had to pay unprecedentedly high interest rates on their bonds. Most industrials have enough capital problems of their own, and do not wish to commit funds to utility type operations if they can avoid it.

VII. SPECIAL PROBLEMS OF CALIFORNIA UTILITIES

A. Oil and Gas

Edison's oil and gas-fired plants currently represent approximately 77% of its total electric generating capacity of over 13,500 Megawatts. In the past few years there has been a rapid growth in Edison's dependency on low sulfur fuel oil which since 1966 has been required to meet stringent local Air Pollution Control Regulations. The increased dependency

on such low sulfur oil for use in generating electricity is caused principally by the sharp decline in the availability of natural gas for electric generating fuel.

EDISON'S FUEL MIX AND COST

	1975	1974	1973	1972	1971	1970	1965
PERCENT OF THERMAL GENERATION BY FUEL:							
Gas	16%	23%	26%	47%	53%	69%	78%
Oil	60	51	53	31	29	18	22
Coal	18	20	17	17	12	7	—
Nuclear	6	6	4	5	6	6	—
Total	100%	100%	100%	100%	100%	100%	100%
AVERAGE FUEL COST — UNIT OF PURCHASE (a)							
Gas (\$/mcf)	91.6	61.3	41.5	38.9	36.2	33.6	33.4
Oil (\$/bbl)	16.34	12.08	5.93	4.80	3.69	2.46	2.08
Coal (\$/ton)	5.68	5.34	4.51	4.09	3.38	2.67	—
AVERAGE COST (\$/m²btu):							
Gas	87.0	58.3	39.2	36.8	34.1	31.6	31.0
Oil	267.1	198.6	97.2	78.3	60.6	40.5	32.6
Coal	30.5	27.1	22.9	20.9	18.1	14.9	—
Nuclear	17.2	11.3	17.3	19.1	19.3	17.6	—
AVERAGE FUEL COST (\$/m ² btu)	176.7	119.4	65.8	45.8	38.9	31.1	31.3
AVERAGE FUEL COST PER KWH (mills)	17.91	12.18	6.55	4.57	3.89	3.02	3.03
OIL INVENTORY — YEAR END (bbls) (000)	19,176	19,666	16,100	9,596	7,089	6,210	5,714

(a) There is no uniform unit of purchase for nuclear fuel

Edison used up to 80% gas fuel for its gas and oil fired boilers and consumed less than 10 million barrels of fuel oil each in the years prior to 1969. However, since that time, Edison's oil consumption has risen to an estimated 48.6 million barrels in 1976, when virtually no natural gas will be available for such use. The non-availability of natural gas is expected to continue in the following years, requiring still further increased reliance by Edison on low sulfur oil for the near future. This dependency on oil makes the recapture of waste heat for generation particularly desirable if at all feasible.

B. Air Pollution

Southern California's dependency on high-cost, low-sulfur fuel oil from predominately foreign sources, is the outcome of the near disappearance of natural gas supplies available for electric generation and other industrial uses, together with the applicable governmental air pollution control laws and regulations in Southern California which limit the use of petroleum fuels that can be used for electric power generation and certain other industrial applications to those

fuels having less than five-tenths of one percent (0.5%) sulfur content by weight. The significant increase in demand for such low-sulfur fuels has resulted in substantial increases in their costs. The availability of such fuels is limited as to domestic sources - hence our large dependence on foreign source low-sulfur fuels.

Many industrials face the same or more severe air pollution restrictions. In some cases, industrials seeking an on-site arrangement have done so primarily because of pollution restrictions - not because of energy conservation or manufacturing economics.

C. Limited Alternatives

The scarcity of sufficient domestic low-sulfur crude oil from which acceptable low sulfur residual fuels could be processed has caused Edison, of necessity, to enter into supply contracts with refiners with access to foreign low-sulfur crude oils and foreign low-sulfur residual oils. The low-sulfur fuel oil thus acquired includes in its price the cost of transportation, import fees, taxes, and domestic refining, if necessary. This results in a high average cost for low-sulfur fuel oil. The average cost of residual fuel increased from an average purchase price of \$2.38 per barrel in 1969 to an average purchase price in excess of \$16.50 per barrel in August, 1975, more than a 700% increase in the 5-year period.

The sharp increase in costs of fossil fuels can affect the ability of our industrial customers to consider on-site generation in the usual term. With the virtual disappearance of gas supplies available for industrial uses, with severely limited domestic supplies of suitable oil, expensive foreign oil sources appear to be the only fuel readily available. This situation makes on-site desirable from an economic point of view, but risky as to reliability of fuel supply.

VIII. ON-SITE GENERATION AND THE ELECTRIC UTILITY INDUSTRY

A. History

In the thirties, utility distribution facilities operated on lower voltage levels, generating electricity principally from low cost hydro with reasonably priced gas and oil available to supplement. Distribution systems did not serve all rural areas in those days.

With the rapid increase in the economy and rural and urban growth after World War II, utility systems expanded to present dependency on thermal generation, for new hydro sites were inadequate to serve the growth. Transmission and distribution technologies advanced rapidly so that within two decades, virtually all areas in the United States became accessible to electric power.

B. Present Status

Edison, up to the late sixties, enjoyed around 75% of its total energy requirements in interruptible gas for its

generating plants. This is no longer true. In 1976, only 5% of our much larger energy source requirements is expected to be natural gas.

Large manufacturers who increased their usage of cheap interruptible gas during the past decade are also forced to burn much higher priced cost fuel oil most of the time. Local gas suppliers faced with delays in processing of construction permits, EIR's and exploration and development of new domestic and foreign fields, predict their firm customers could be curtailed in a few years.

The best potential candidates for on-site generation are customers whose processes involve the use of steam and produce waste heat as a by-product. A limited number of large electric users (generally the utilities' "very large power" customer classification) such as petro-chemical, cement, steel, air separation and glass industries are included in this category.

Other candidates for on-site generation include plants which could operate from gas prime movers and industries which could utilize coal either in the process or for production of steam.

Gas field producers and refinery operators are also candidates for on-site generation. Excess or waste heat is a by-product of these processes. The available heat is reclaimed in waste heat boilers to produce high pressure steam for electric generators. Both of these industries lend themselves to

on-site generation possibilities because their by-products can utilize generators sufficiently large to make on-site generation economically feasible.

Some of the other energy technologies which lend themselves to electric generation and which are becoming more economically affordable to homeowners and small businesses are solar power, fuel cells and wind power.

IX. WHAT MAKES ON-SITE GENERATION FEASIBLE

On-site generation means a customer produces all or a part of his own electrical requirements as contrasted to receiving central station or utility service. What makes certain industrial plants potential candidates for on-site generation?

1. It is our experience that the plant must be sufficiently large to produce enough steam or waste heat to reasonably balance its electrical requirements.
2. The enterprise must be profitable enough to finance a front-end capital investment of \$500 to \$1,000 per installed kilowatt capacity, while carrying a low rate of return on its investment for generation.
3. The operation must be continuous enough throughout each and every twenty-four hour period to benefit from operating characteristics.

4. The plant's load factor should be high enough (80% or better) in order to operate its capacity efficiently.
5. To properly preserve the investment, the plant should be serviced by an experienced and full-time maintenance staff.
6. Reliability may require redundancy, and redundancy means higher capital costs.
7. The minimum optimum plant generation is generally in the order of 5,000 kW.
8. The energy source for the generation, whether it is waste heat, steam, or fossil fuel must be an assured continuous supply for the life of the plant.
9. Escalation of such costs as labor, fuel, and supplies must be carefully considered for the life of the plant.
10. Environmental requirements, including permits, variances, air pollution control equipment, etc. must be realistically appraised.
11. The on-site power station's space requirement must be included in the area for industrial site development.

X. WHAT DOES THE UTILITY INDUSTRY THINK OF ON-SITE

There has never existed a consistent, coherent electric utility industry position regarding on-site generation. Utilities have generally been concerned about the potential loss of base load, about the use of utility transmission facilities for wheeling, and about any idea that the utility system might be expected to provide backup to on-site generation without adequate compensation.

However, the electric utility industry recognizes that the potential for energy conservation, through the use of energy sources that have heretofore been ignored or labeled "waste," probably exists in many industrial operations. Therefore, electric utility policies that were established to compete with the promotion of natural gas-fired isolated generation are presently being modified to allow and encourage co-generation projects based on the use of industrial "waste" energy.

The prevailing attitude has come to be that if a project is both technically and economically feasible, then the utility will itself give serious consideration to installing the generation. In spite of this newly liberalized attitude in most companies, there properly remains a consistent insistence among utility system operators that frequency control remain the province of the utility system and that the system be adequately protected from undue outside influence. There also is a longer range concern that a continued proliferation of many small units spread over the utility system might compound the already complex problems of system dispatch

beyond reasonable handling. In summary, the utility industry believes that the potential for increased utilization of the co-generation concept is real, but that both the magnitude and impact of that potential have perhaps been overstated by on-site proponents in their explanation of co-generation benefits.

It should also be pointed out, that the utility must provide adequate standby facilities to serve parallel facilities and be ready to provide backup capacity and energy at a moment's notice. For providing standby service, the utility must be fully compensated by the customer requiring such service. This will prevent the inequitable distribution of such costs to other ratepayers who would otherwise subsidize the few potential co-generation plants.

XI. WHAT DOES AN INDUSTRIAL FIRM SEEK IN ON-SITE GENERATION

Economics usually dictates whether or not an industrial firm goes on-site. The higher the energy cost per unit of product the greater the incentive to study on-site as an alternative to taking central station power.

- a) For those industries which have processes that lend themselves to on-site generation there is a natural inclination to periodically investigate the feasibility of reducing energy costs through conversion to on-site generation.

- b) High front end capital costs can be reduced to make on-site appear more attractive if the firm relies on the utility to provide backup service for reliability. This approach saves the customer the costs of installing expensive redundant generating equipment needed for reliability purposes.
- c) "Very large" customers with multiple plants in a utility's service territory may want to have wheeling and combined metering. This concept is not cost-effective or practical from an electrical stability viewpoint. Additionally, the concept poses numerous liability problems in the event of transmission problems. The customer also may not be able to afford his fair share of the costs of wheeling as do the various interconnected utilities.
- d) To comply with air and/or water pollution requirements certain industries, such as the cement industry, may find that on-site generation is the most feasible alternative.
- e) Many process industries such as petro-chemicals have waste heat available which can be captured and used to produce high pressure steam for use in steam electric generators. However, this recaptured energy must have assured long term availability to make on-site pay out economically.

XII. EDISON'S RESPONSE TO ON-SITE GENERATION REQUESTS

Edison, for over a decade, has seriously considered all on-site generation requests. During the early years of co-generation promotion, or total energy as it was known then, many of our customers requested assistance in evaluating the economic feasibility of co-generation versus purchased power from our system. After analyzing dozens of such installations, we concluded that very rarely are all the components present that make an isolated generation installation economically justified, but prospects are enhanced if the utility system can serve as the electricity sink.

Ten years ago in 1966, Edison installed, and continues, to this day, to operate a 15MW combustion turbine-steam production plant for a paper company. Also, until recently we operated a 15MW combustion-turbine installation wherein the customer received the exhaust heat for use in his own waste heat boiler. This entire installation was bought by the customer, who now purchases stand-by electric service from Edison. At a different location, we plan to connect this same customer's own 4MW combustion-turbine in parallel with the Edison system through a co-generation agreement.

As another example, we have a large steel complex with blast furnaces in our service territory. In an attempt to capture and use the available waste energy and to minimize the air pollution impact of this operation, Edison joined with the customer to make an extensive study into the feasibility of co-generation. The economics were not favorable at that time and the project was

tabled. This project is now dormant.

Currently we are investigating the possibility of eleven co-generation requests ranging in sizes from 3kW (wind generator) to 77MW. We expect at least one of the 11 requests presently under consideration to be on our lines and in parallel with our generators before the end of this year. A special contract with the CPUC's approval is necessary to permit parallel operation with customer's equipment; however, we recognize that we are in an era when energy conservation is paramount, thus it is incumbent upon us to seek every feasible and economic solutions to power supply including on-site. Conversely, we cannot encourage or permit systems which deteriorate the general reliability of central station power or otherwise disadvantage our total customer body.

XIII. ON-SITE GENERATING PLANTS IN EDISON SERVICE TERRITORY

An example of the on-site opportunities that we experienced from February, 1968 to December 1970--a period of thirty-five months--is contained in Exhibit "A". There were eight (8) on-site isolated generating plants in Edison territory as of December, 1970. Since then, the two gas utility generators were discontinued and electric service taken from Edison.

The six remaining on-site generation plants remaining in our territory are:

<u>Type of Business</u>	<u>Type of Equipment</u>
1. <u>Mfg. Chemical Products</u> <u>Ridgecrest District</u> 35,000 kW (Increasing to 50,000 kW)	<u>Steam Turbines</u> Process steam is generated from boilers which operate on gas or oil. Company has San Bernardino County approval to use "best technology available" for burning coal--an energy conservation project.
2. <u>Aerospace</u> <u>Torrance District</u> 500 kW	<u>Combustion Turbine</u> Uses gas for turbine Unit similar to one used on aircraft and is considered a "demonstration unit" that serves their cafeteria. Main plant is on Edison system--a demonstration unit.
3. <u>Water Reclamation</u> <u>Huntington Beach District</u> 1,000 kW	<u>Combustion Turbine</u> Uses sewer gas from reclamation plant--an energy conservation project.
4. <u>Mfg. Cement</u> <u>Victorville District</u> 15,000 kW	<u>Steam Turbines</u> Heat exchanger at end of kiln produces steam. System was installed because of need to reduce temperature of air going to bag house. Air

<u>Type of Business</u>	<u>Type of Equipment</u>
	pollution requirements required bag house and, subsequently, heat exchanger/steam generator--an air pollution requirement.
5. <u>Water Reclamation</u> Long Beach District 5,000 kW	<u>Gas Engines</u> Uses sewer gas--an energy conservation project.
6. <u>Mfg. Gypsum Products</u> Compton District 3,750 kW	<u>Steam Turbines</u> Operate off process steam produced by a boiler using gas or oil--an energy conservation project.

Two of these plants were installed to utilize process steam readily available; two water reclamation plants utilize low BTU "sewer" gas; one plant involved a "demonstration" unit; and one plant was forced into generation because of air pollution requirements. Four of these plants operate continuously with load factors greater than 90%.

XIV. IMPLICATIONS OF HR 12461, SECTION 310--INDUSTRY AND ON-SITE GENERATION

It appears the implied policy of this section is to foster increased competition in the electric utility industry in part through encouraging mass utilization of on-site generation and requiring utilities to provide backup generation.

Plants with sufficient available waste heat are already eligible for possible co-generation through the application of existing rates, the cooperation of the utilities and/or the encouragement of state public utilities commissions.

Those plants without sufficient available waste heat would require gas, oil, or coal as its principal energy resource. The use of gas or oil for these applications would not be in the interest of energy conservation. The use of coal would have limited applications in California as well as tremendous environmental constraints.

It should be pointed out that most utilities already provide standby or backup generation service, usually through some special agreement. Edison, like many other utilities, has provisions in its rules and tariffs that are applicable to customers who elect standby or breakdown service where the entire electrical requirements on the customers' premises are not regularly supplied by Edison.

Historically, the standby service provided by utilities has been reserved for large customers and the probability of their using such service is very small. If this scenario were to change substantially and a great number of individual users were encouraged to provide on-site generation for themselves in parallel with electric utilities, the complications and burdens imposed upon the utilities could have detrimental effects.

Electric utilities to maintain reliability of service must hold a certain amount of generation in reserve to allow for planned and unplanned outages. The addition of large numbers of plants with co-generation would severely handicap the operation of central station power systems because the co-generation plants cannot be relied upon by the utility as a "firm" generation resource. Providing service to standby

or co-generation customers creates, in effect, a duplication of capacity in the event the plant requires assistance. Thus, in the event a problem common to all or many of these individual "on-site" generators were to occur causing them to require standby service near "simultaneously," the additional load burden on the utility could be great enough to cause an overload condition and threaten the entire system.

The problem becomes more complicated when considering proposals for the development of energy industrial centers. The chief hurdle to this kind of an arrangement is to find a community willing to accept not only the power plant, but a large number of industrial firms on a single site. In the face of increasing no-growth community ordinances, this may be difficult to do.

XV. SUMMARY AND CONCLUSIONS

Utility commissions, utilities and industry are actively working together to resolve mutual problems relating to the use of waste energy resources and on-site generation. That utilities are strongly motivated to avoid the need to expand generating capacity by working to eliminate wasteful energy applications and conversely encouraging effective utilization of every feasible recapturable energy output. Edison in 1971 recognized the need to moderate the rate of growth in consumer demand and took positive action by implementing energy management programs. Like Edison, most utilities in addition to their energy conservation activities also have load management programs committed to optimizing the Company's ability to service its customers with existing plants while reducing future construction requirements and maintaining a strong financial structure.

However, there is still much to be learned about the cost effectiveness and reliability of mechanical load control devices as well as customer acceptance to constraints in their living and working habits.

The electric utilities industry has long been concerned with those enterprises which have readily available process or waste heat. These are the likely candidates for on-site generation, provided that certain economies are present and that their operations are continuous enough to maintain a high load factor

While there are still many drawbacks to on-site generation as a viable alternative to receiving central station power, there is a noticeable increase in attention to on-site generation. Primary among the reasons causing this increase in interest is the steadily increasing price of environmentally acceptable fuels, especially in Southern California where fuel alternatives are limited, air and water pollution regulations and the effects of changing regulatory attitudes in rate design.

Still to be explored in depth is the ability of utility plants, new or existing, to share waste heat with new neighboring industrial complexes. We are exploring one such possibility at this moment.

It is our belief that there does not now exist any legal or regulatory barrier to on-site generation beyond the control of the utility, the customer and state regulatory agencies working together.

I appreciate your invitation and this opportunity to communicate with you and your committee regarding the matter of on-site generation.

(1) SURVEY

FOR THE PERIOD 2/68 - 12/70

I. FAVORABLE OR CANCELLED

A. ON-SITE GENERATION (2)

TYPE OF BUSINESS	EDISON DISTRICT	SIZE OF LAND (AC)	RESULT OF COMPETITION	DATE INSTALLED	DATE REMOVED	TYPE OF EQUIPMENT	REMARKS
1. Mfg. Alum. Products	Fullerton	1,500	Lost 6/65	6/65	8/70	Gas engines	**
2. Aerospace	El Segundo	3,000	Cancelled 6/69	-	-	Gas turbines	
3. Aerospace	El Segundo	4,000	Won 4/68	-	-	Gas engines	Butane/Propane equipment supplier. Manufacturer of gas meters Actually lost on 2/68, but re-awarded to Edison 4/68 - **
4. Mfg. Air Products	El Segundo	37,000	Won 4/68	-	-	Gas turbines	
5. Mfg. Gas Turbines	Torrance	1,000	Cancelled 5/68	-	7/68(3)	Steam turbines	
6. Mfg. Gas Turbines	Whittier	1,000	Cancelled 5/68	3/64	-	Gas engines	
7. Mfg. Butane/Propane Equip.	Whittier	1,000	Cancelled 6/69	-	-	Gas engines	
8. Mfg. Gas Meters	Fullerton	800	Lost 6/64	6/65	9/70	Gas turbines	Oil field Emergency generation requirement ** UPS requirement. ** Uses process steam - **
9. Aerospace	Buntington Beach	500	Lost 6/64	-	-	Gas engines	
10. Mfg. Radiator Cores	Tombay, Nevada	9,000	Won 4/68	-	-	Gas engines	
11. Act. House	Santa Monica	2,500	Won 4/68	-	-	Gas turbines	
12. Commercial Bldg.	Santa Monica	675	Lost 9/64	8/64	11/70	Gas engines	
13. Private School	Long Beach	3,000	Won 8/69	-	-	Gas engines	Threat included central heating-cooling plant
		1,500	Won 1/69	-	-	Gas engines, gas turbines	
14. Oil Field Pumping	Ventura	4,000	Won 7/69	Pre-1960	7/68	Gas engines, gas turbines	
15. Hospital	Monrovia	1,200	Won 2/69	-	-	Gas engines, gas turbines	
16. Mfg. Electronic Equip.	Buntington Beach	500	Won 7/68	-	-	Gas engines	
17. Mfg. Paper Products (Tissue)	Dana Point	18,000	Won 2/69	-	-	Gas turbines	Threat included central heating-cooling plant
18. Hospital	Monrovia	1,200	Won 5/70	-	-	Gas engines	
19. Commercial Bldg.	Long Beach	1,300	Cancelled 3/68	-	-	Gas engines	
20. Commercial Bldg.	Santa Ana	10,000	Won 10/68	-	-	Steam turbines	
21. Commercial Bldg.	El Segundo	1,000	Lost 5/68	10/65	5/70	Gas turbines	
22. Commercial Bldg.	El Segundo	1,000	Lost 5/68	5/68	-	Gas turbines	Uses process steam - ** Lost central heating - cooling plant, inc. Electric **
23. Mfg. Fabricated Products	San Bernardino	1,500	Cancelled 8/70	-	-	Diesel engines	
24. Mfg. Fabricated Products	Ontario	1,200	Lost 3/65	3/65	9/70	Gas engines	
25. Hospital	Corona	1,200	Won 7/70	-	-	Gas engines & Gas Turbines	
26. Private School	Perris	500	Won 5/69	-	-	Gas engines	
27. Movie Studio	Orange	9,000	Cancelled 7/69	-	-	Gas turbines	Uses process steam - ** ** Gas, LNG, & diesel Gas turbines
28. Mfg. Paper Products	Santa Ana	3,000	Won 5/68	-	-	Gas turbines	
29. Ski Resort	Bishop	2,000	Won 9/68	-	-	Gas engines	
30. Ski Resort	Yuba City	5,000	Won 9/69	-	-	Gas engines	
31. Mfg. Cement	Lancaster	15,300	Won 7/68	-	-	Gas, LNG, & diesel Gas turbines	
32. Commercial Bldg.	Monrovia	1,500	Lost 3/66	4/66	8/69	Gas turbines	Uses process steam - ** Lost central heating - cooling plant, inc. Electric **
33. Mfg. Soap Products	Long Beach	7,000	Won 4/70	-	-	Gas engines	
34. Commercial Tourist Attraction	Long Beach	5,000	Won 5/69	-	-	Gas engines	

<u>TYPE OF BUSINESS</u>	<u>EDISON DISTRICT</u>	<u>SIZE OF LOAD (KW)</u>	<u>RESULTS OF COMPETITION</u>	<u>DATE INSTALLED</u>	<u>DATE REMOVED</u>	<u>TYPE OF EQUIPMENT</u>	<u>REMARKS</u>
35. Water Reclamation Plant	Long Beach	1,500	Won 1/49	-	-	Gas engine & turbines	Study attached
36. Sewerage Pumping Plants	Various	40,000	Won 7/68	-	-	Diesel engines	Required reliability study - 2 Studies attached
37. Oil Field Pumping	Santa Barbara	15,000	Won 1/68	-	-	Gas turbines	Oil field
38. Land Development	Santa Barbara	15,000	Won 1/68	-	-	Gas turbines	Remote location
39. Refinery	Long Beach	15,000	Won 5/68	-	-	Gas turbines	Required reliability study - 2
40. Oil Field Pumping	Burroughs Beach	25,000	Won 4/68	-	-	Gas turbines	Local engine driven water flooding (3000 hp)
41. Mfg. Alum. Products	Santa Ana	3,000	Won 11/68	-	-	Gas engines	Uses process steam - Edison on-site
42. Mfg. Chemical Products	Widgerest	15,000	Won 5/68	-	-	Gas turbines	Uses process steam - 2
43. " "	Victorville	15,000	Won 3/68	-	-	Steam turbines	Threat included central heating-cooling plant
44. University	Santa Barbara	15,000	Won 9/68	-	-	Gas engines	Oil field
45. Oil Field Pumping	Long Beach	14,000	Won 3/68	-	-	Gas engines	

SURVEY OF FOR THE PERIOD 2/68 - 12/70

I. FAVORABLE OR CANCELLED

B. CENTRAL PLANTS (4)

<u>TYPE OF BUSINESS</u>	<u>EDISON DISTRICT</u>	<u>RESULT OF COMPETITION</u>	<u>TYPE OF EQUIPMENT</u>	<u>REMARKS</u>
1. Commercial Bldg.	Long Beach	Won 7/70	Air conditioning chiller	Specified electric motor-chiller
2. Shopping Center	Cospton	Won 8/69	Air conditioning chiller	**
3. Commercial Bldg.	El Segundo	Won 11/69	Air conditioning chiller	Customer decided not to relocate to Santa Fe Springs
4. Food Industry Warehouse	Whittier	Won 2/69	Refrigeration	**
5. Commercial Bldg.	Santa Ana	Won 10/68	Air conditioning chiller	
6. Shopping Center	Santa Ana	Won 10/68	Air conditioning chiller	
7. Commercial Bldg.	El Segundo	Won 3/70	Air conditioning chiller	
8. Shopping Center	Redondo Beach	Won 8/69	Air conditioning chiller	
9. " "	Canard	Won 12/68	Air conditioning chiller	**
10. Movie Studio	Santa Monica	Cancelled 11/69	Air conditioning chiller	
11. Commercial Bldg.	Santa Ana	Won 4/69	Air conditioning chiller	
12. " "	Long Beach	Cancelled 6/69	Air conditioning chiller	
13. Aerospace	Long Beach	Won 6/68	Air conditioning chiller	Specified electric motor-driven chiller, **
14. Civic Center Bldg	Long Beach	Cancelled 4/70	Air conditioning chiller	Specified electric motor-driven chiller. Included in Long Beach Convention Center
15. Movie Studio	Canard	Cancelled 7/69	Air conditioning chiller	
16. Commercial Bldg.	Santa Monica	Won 7/69	Air conditioning chiller	
17. " "	Long Beach	Won 10/69	Air conditioning chiller	
18. Aerospace	Long Beach	Cancelled 11/69	Air conditioning chiller	

SURVEY OF COMPETITIVE TENDERS FOR THE PERIOD 2/68 - 12/70

- I. Favorable or Cancel led
B. Central Plants (4)

<u>TYPE OF BUSINESS</u>	<u>EDISON DISTRICT</u>	<u>RESULT OF COMPETITION</u>	<u>TYPE OF EQUIPMENT</u>	<u>REMARKS</u>
19. Mfg. Food Products (Meat)	Vernon	Won 4/68	Refrigeration	Specified electric motor-driven chiller
20. Food Industry Warehouse	Long Beach	Won 10/69	Refrigeration	Customer decided not to relocate to Santa Fe Springs
21. Com'l. Bldgs./Redevelopment	San Bernardino	Won 3/68	Air conditioning chiller	**
22. Commercial Bldgs.	Huntington Beach	Cancelled 4/70	Air conditioning chiller	
23. Mfg. Hydraulic Equip.	San Fernando	Cancelled 6/69	Air conditioning chiller	
24. Commercial Bldgs.	San Fernando	Cancelled 6/69	Air conditioning chiller	
25. University	Santa Barbara	Won 2/69	Air conditioning chiller	Specified electric motor-driven chiller, **
26. Commercial Bldgs.	Long Beach	Cancel led 4/70	Air conditioning chiller	Included in Long Beach convention center

SURVEY FOR THE PERIOD 2/68 - 12/70

II CONTINUING NON-ELECTRIC OPERATIONS

TYPE OF BUSINESS	EDISON DISTRICT	SIZE OF LOAD (KW)	A. ON-SITE GENERATION		DATE REMOVED	TYPE OF EQUIPMENT	REMARKS
			RESULT OF COMPETITION	DATE INSTALLED			
1. Mfg. Chemical Products	Ridgecrest	35,000	No change	Existing		Steam turbines	Uses process steam; Study attached
2. Aerospace	Torrance	500	Lost 12/64	12/64		Gas turbines	Manufacturer of gas turbines
3. Water Reclamation Plant	Huntington Beach	1,000	Lost 6/64	6/64		Gas	Operates on sewer gas
4. Mfg. Cement	Victorville	15,000	Lost 11/68	11/68		Steam turbines	
5. Water Reclamation Plant	Long Beach	5,000	No change	Existing		Gas engines	Operates on sewer gas
6. Gas Utility Office	Torrance	320	Lost 12/63	12/63		Gas turbines	Gas utility facility
7. " " "	Dorney	500	Lost 6/64	6/64		Gas turbines	Gas utility facility
8. Mfg. Crysium Products	Compton	3,750	No change	Existing		Steam turbines	Uses process steam

SURVEY

FOR THE PERIOD 2/68 - 12/70

II. CONTINUING NON-ELECTRIC OPERATIONS

B. CENTRAL PLANTS (4)

<u>TYPE OF BUSINESS</u>	<u>EDISON DISTRICT</u>	<u>RESULT OF COMPETITION</u>	<u>TYPE OF EQUIPMENT</u>	<u>REMARKS</u>
1. College	Long Beach	Lost 6/68	Air conditioning chillers	Specified absorption and steam-driven chillers
2. Hotel	Santa Ana	Lost 9/68	Air conditioning chillers	Lost to Uni-plant; absorption chillers
3. Commercial Bldgs.	Long Beach	Lost 4/70	Air conditioning chillers	Specified gas engine-driven chillers
4. Aerospace	Huntington Beach	Lost 6/63	Air conditioning chillers	Uni-plant installation
5. Civic Centers	Santa Ana	Lost 6/64	Air conditioning chillers	Specified absorption and steam-driven chillers
6. Food Industry Refrigeration	Whittier	Lost 6/64	Refrigeration	Serves adjacent food industry
7. Hospital	Compton	Lost 4/68	Air conditioning chiller	Specified steam-driven chillers, **

NOTES:

- (1) These are for projects on which a decision was made during the period 2/68 - 12/70, or which non-electric operation continues to exist from pre 2/68 decisions.
- (2) On-site generation implies that all of the customer's electrical requirements would be served from this system.
- (3) On-site equipment discontinued when Gould - US Pumpa leased facilities.
- (4) Central Plants are large central heating-cooling plants either customer or utility owned and generally involve cooling requirements of 2000 tons or larger. Four of these projects involve refrigeration requirements for low-temperature application in the food industry.
- UPS Uninterruptible Power System

Statement of

Prof. Jack B. Owens

School of Law
Boalt Hall
University of California
Berkeley, California

on

H.R. 12461
Electric Utility Rate Reform and Regulatory
Improvement Act
Section 310 -- On-Site Generation

Before the

Subcommittee on Energy and Power
Committee on Interstate and Foreign Commerce

April 9, 1976

Mr. Chairman and Members of the Subcommittee:

My name is Jack Owens. I teach law at Boalt Hall, the School of Law of the University of California at Berkeley. I am also associated with the Earl Warren Legal Institute, which is situated at Boalt. The Institute is devoted to the study of a broad range of issues of public policy, including the study of alternative sources of energy and energy conservation. Some of this work is done in conjunction with Lawrence Berkeley Laboratory, which, as the Subcommittee knows, has an enormous expertise and capability in the area of energy research.

I am pleased to respond to the Subcommittee's invitation to speak to some of the legal, institutional and regulatory issues raised by the prospect of increased reliance on on-site generation, or co-generation, of electric power. Subsection 310(c) of H.R. 12461, the proposed "Electric Utility Rate Reform and Regulatory Improvement Act," deals with on-site generation. The subsection directs the Energy Research and Development Administration (ERDA) to study and to report to Congress within one year on the economic and legal aspects of on-site generation, which is defined to include "individual systems for generating electricity at or near the site of consumption, not for sale to the general public, and which include means for utilizing waste heat produced in the process of such generation..." Among the matters to be explored under subsection 310(c) are the consequences of requiring electric utilities to provide backup generation (presumably to an industrial concern engaged in on-site generation), of requiring electric utilities to establish connection with and purchase surplus electric energy at reasonable rates from an on-site generation facility (the same presumption), and of prohibiting the construction of such on-site generating facilities without any provision for on-site back-up generation (ditto).

The authors of H.R. 12461 are to be heartily commended for encouraging an increased utilization of on-site generation. If properly structured and implemented, on-site generation offers, I believe, a significant opportunity for the efficient production of energy at reduced costs -- taking the term costs in its broadest sense to include not only the price of electric power to the industrial and individual consumer but also the total consumption of energy-

producing fuels as well as the injury we all suffer from any unnecessary environmental degradation. Increased on-site generation may also offer us an important but presently undeveloped alternative energy source that, along with other alternatives, we should pursue diligently in order to reduce our increasing and alarming reliance on non-domestic energy sources.

However, while subsection 310(c) offers a commendable step in the right direction, it seems to me that in order to maximize the benefits to be obtained from the study to be undertaken, the Subcommittee either on the face of subsection 310(c) or in the accompanying legislative history should give more detailed guidance to ERDA as to the kinds of legal, institutional, and regulatory issues that must be fully analyzed as a concomitant to the expanded development of on-site generation. (I leave to other witnesses before you today the task of suggesting further technical and economic issues for analysis beyond those presently set forth in subsection 310(c).) Without proposing definitive answers or purporting to be all-encompassing, for it is premature to attempt either goal, I would like to devote my statement to an outline of some of the above issues.

Before turning to specifics, it may be useful to note the multi-step inquiry that seems in order to explore in an optimal way the legal, institutional and regulatory issues posed by increased on-site generation. First, one should identify the legal and regulatory barriers that presently stand in the way or may stand in the way of on-site generation -- particularly the barriers or perceived barriers to the sale of excess electricity generated on site by an industrial concern and to the provision of adequate back-up capacity by an adjoining electric utility. Given the apparent and apparently significant inherent economies offered by on-site generation in many circumstances, one perhaps can be forgiven the assumption that what we may have is an instance of legal and regulatory strictures, designed to serve other goals, standing in the way of a desirable technological development that, were the forces of the free market left less encumbered, might well arise on its own.

Second, one should assess whether the lifting of legal and regulatory barriers to increased on-site generation would have unacceptably untoward side effects. Assuring industrial firms willing to undertake on-site generation, either alone or in a joint venture with an electric utility, that those firms would not thereby subject themselves to the labyrinth of Federal Power Commission or state PUC jurisdiction and regulation or to the Draconian provisions of the Public Utility Holding Company Act would probably do wonders for the advancement of on-site generation -- particularly if the prices for electric power continue to rise. But query whether there are unacceptable risks in such exemptions? The answer is probably no in the examples just given, but the question must still be addressed and with some care. The lifting or modifying of existing legal and regulatory barriers to on-site generation must be done with an eye to the premises for such barriers.

Third, an assessment should be made of whether the removal or modification of existing hurdles will be enough to lead to a significant increase in on-site generation. If not, then, fourth, an appraisal should be undertaken of possible outright incentives to on-site generation. Of course it goes without extended statement that such potential incentives must be evaluated on their intrinsic merit, to determine whether the game is worth the candle.

Let me turn now to a description of how on-site generation or co-generation might work. Different approaches are possible, and they may raise different issues.

What Is On-Site Generation or Co-generation?

It seems to be generally assumed that on-site generation or co-generation of electric power can arise in two ways, to which I will turn in a moment. Both ways take into account the happy circumstance that many industries and many utilities produce considerable amounts of steam and that that steam in theory could serve a double purpose -- the generation of electric power and the conduct of the industrial process for which it is currently utilized. Unfortunately, today's production of steam by utilities and industrial firms for the most

part occurs independently (in watertight compartments, if you will) and represents a technologically unnecessary duplication of effort and a consequent overuse of energy resources devoted to the production of steam. To the extent that utilities are unable to use steam (or, perhaps more accurately, heat) to produce electricity, they are faced with a problem of discharge. The discharge, in the form of unused heat, generally must be made into the environment, subject to the requirements of existing environmental laws. The problem arises in part because the efficient generation of electricity requires steam at relatively high temperatures. The lower temperature steam remaining after generation of electricity could be used as process steam for industrial purposes (or for other heating purposes). Generally today it is not.

From an industrial concern's viewpoint, the opportunity exists -- although today it is generally foregone -- to heat steam to temperatures somewhat higher than necessary for industrial processes and then to draw off the extra heat in the form of electrical energy. This would require the installation of steam producing boilers of greater capabilities than today's standard industrial facilities (or perhaps the modification of existing facilities, where that is possible). The return in the investment in the new boiler installation or modification would be in the form of electricity generated in-house at efficient costs. In those cases where an industry is capable of becoming a net producer of electricity, generating more than it uses locally, the return also ought to be in the form of sales of electric power to an adjoining utility.

If we were to marry the current steam-producing function of the utilities and of some industries, the advantages would be obvious. One steam boiler could take the place of two, thus reducing the overall commitment of assets to both industries. The total amount of fuel used in this country to produce steam could be reduced, as could the total amount of discharge of effluents into our waters and particles and gases into our air. In theory, depending on the feasibility of transporting usable amounts of process steam from a utility to an

industrial concern, the thermal discharges of utilities could be put to a better purpose. In general, the economics of a sensible joint endeavor would be realized.

One way to achieve these benefits, call it Type A, would be for industrial concerns heavily involved in the production of process steam to engage in on-site generation of electricity. They would couple enhanced boiler capabilities with a back pressure turbine or otherwise use known or state of the art mechanisms for splitting the heat produced by the boilers between process steam and the generation of electricity. To the extent that steam in this country today is utilized for the desired double purpose, it tends to be in this way. The industry at issue would then either reduce its demands for electricity from its adjoining utility or, in theory and in some cases, switch roles from consumer to producer of electricity. A backup source of electrical power obviously is essential to this approach.

A second approach, call it Type B, is for a utility to sell unused steam to an industrial concern (or to a central residential heating plant, for that matter). The utility could do this on its own or a utility and an industrial partner could jointly undertake co-generation through a dual purpose generation facility. The latter approach would lead to one set of boilers and turbines with the utility and industrial partners sharing the resultant steam and electricity in some sensible way. Type B is, I believe, less common today (if it exists to any significant degree at all), but it is not clear that there is any technological reason for it to be so.

At this point, note again the language of subsection 310(c) of H.R. 12461. It refers to "individual systems for generating electricity at or near the site of consumption, not for sale to the general public, and which include means for utilizing waste heat produced in the process of such generation..." The first two thirds of that batch of language appears to refer solely to what I have just referred to as Type A -- on-site generation by industrial concerns. (The various "consequences" listed in the language that follows the above quotation also seem to have the same exclusive focus.) The last third of the

above quote seems to refer to so-called Type B -- sales of unused steam by a utility or co-generation of steam and electricity by utility and industrial partners. Yet the first two-thirds of the above quote and the latter third are stated in the conjunctive, not the disjunctive. In short, subsection 310(c) in its present form may not fully inform ERDA of what is to be studied. Should ERDA study both types A and B? If so, perhaps a clearer description is in order. Should ERDA study Type A but not Type B? If so, that should be stated clearly, although it is not obvious why ERDA's study should be so restricted.

Somewhat analogous concerns are raised by some of the language of subsection 310(a) of H.R. 12461, which directs the Federal Power Commission (FPC) to conduct a two year study of the means and efficacy of increasing competition in the electric utility industry, including possibly reducing entry barriers into the business of generating electric energy (subsection 310(a)(5)) and the feasibility of jointly owned facilities for the generation of electric energy (subsection 310(a)(7)). Types A and B on-site generation and co-generation seem to fit within those guidelines. Is it the Congressional purpose to have the FPC and ERDA conduct parallel studies? Is it the intent to leave Type B to the FPC, on the theory that FPC jurisdiction over a Type B approach is clearer than over a Type A approach, due to the more direct involvement of a utility? Leaving the study of Type B to the FPC exclusively might not be wise, for one of the important questions concerning Type B is the appropriate scope of FPC jurisdiction. We should not rely exclusively on the agency at issue to advise us about the appropriate scope of its own jurisdiction.

In the remarks that follow, which survey some of the legal, institutional and regulatory issues posed by on-site generation or co-generation, I shall continue to refer to Type A and Type B, for the two approaches occasionally raise different questions. It should be noted that one of the overarching questions in this area is whether the two approaches should be subjected to different requirements. If,

as a technical matter, the two approaches are in many ways alternative paths to the same goal, it should be asked why we would want to subject one but not the other to various legal and regulatory obstacles.

The Federal Power Act and FPC Jurisdiction

Symptomatic of the complexity of some of the legal, institutional and regulatory issues raised by on-site generation is the question of the status of a Type A or Type B endeavor under the Federal Power Act, 16 U.S.C. §§ 791 et seq. Would either a Type A or Type B operation constitute a "public utility" under 16 U.S.C. § 824(e) that falls within FPC jurisdiction, as defined in 16 U.S.C. § 824(b)? Under present law, the practical consequences of the answer to that question could be quite important. They include such things as the following:

-- If a Type A or Type B operation constitutes a public utility within FPC jurisdiction, state jurisdiction in many important respects will be preempted. Thus, a significant institutional or governmental issue -- a problem of federalism -- will be resolved in favor of a federal rather than a state approach. On the other hand, if FPC jurisdiction does not extend to the activity, state jurisdiction may attach, depending on commerce clause implications. If so, we will have a variegated approach (or a laboratory approach) across the country as some states do and some states do not lift state law barriers to on-site generation.

-- If a Type A or Type B approach constitutes a public utility under FPC jurisdiction, a host of FPC regulatory powers and requirements may come to bear on the activity. This would include, among other possibilities, FPC power to prohibit the issuance of securities by a public utility (assuming no governing state law), FPC rate regulation, FPC oversight of depreciation techniques, FPC reporting requirements and regulatory fees, etc. The notion of subjecting an industrial participant in an on-site generation or co-generation activity to such a wave of intensive, new regulation is, to say the

least, disturbing. Under those circumstances, such a firm might be forgiven for viewing the prospect of generating electricity, particularly in partnership with a utility, as a regulatory tar baby, to be avoided if at all possible.

-- If a Type A activity becomes subject to FPC jurisdiction only if it transmits any surplus power to another entity, rather than using it all in-house, we may have a situation where industries with some potential of becoming net electricity producers will refuse to do so in order to avoid triggering FPC jurisdiction.

Defining the exact scope of FPC jurisdiction under the Federal Power Act is no easy task, due to certain ambiguities built into the language of 16 U.S.C. § 824(b) and despite a handful of Supreme Court cases on the point. This is not the occasion for a short course on the subject, except perhaps to make the obvious point that as the degree of utility involvement increases (as we move from Type A to Type B) so does the chance that FPC jurisdiction will attach. The important point is that the regulatory jurisdiction to which on-site generation or co-generation (be it FPC or state PUC or no commission at all) may be subject should be identified clearly. Beyond that, the consequences of such jurisdiction should be fully understood. We may well find that the best result is to insure, through legislative amendment if necessary, that the activity is exempted from both FPC and state PUC jurisdiction, so that it may flower on its own. Regulatory jurisdiction, state or federal, would still reach the question of the appropriate rate for a utility to pay in purchasing on-site generated or co-generated power. That degree of regulation may be enough.

Before leaving the subject of FPC authority, a brief word on the subject of "wheeling" of power may be in order. Under section 302 of H.R. 12461, the FPC would be given the power to order wheeling, a power it does not presently possess, according to the Supreme Court in Otter Tail Power Co. v. United States, 410 U.S. 366 (1973). If on-site generation or co-generation offer a realistic opportunity to produce significant amounts of electricity beyond

what is consumed locally, ERDA might be directed to study whether wheeling in some circumstances would be appropriate in order to broaden the market for excess electric power and to increase the incentives for industrial firms to undertake on-site generation.

The Public Utility Holding Company Act

The Public Utility Holding Company Act of 1935, 15 U.S.C. §79 et seq., probably represents the most hard-nosed example of the depression era reform legislation that is devoted to correcting abuses in the public securities markets. Reflecting the depth of Congressional concern over the evils inherent in extensive control of public utilities by complicated holding companies, the Act gives the Securities and Exchange Commission (SEC) an arsenal of weapons to simplify the ownership of utilities and to keep it that way. Holding companies, as defined, must register with the SEC, which in turn as to such companies can, among other things, control the issuance of securities and dividends, the acquisition and disposition of assets, accounting methods, transactions among affiliates, etc. The consequences of violating the Holding Company Act can be, shall we say, breath taking.

There is some chance that a Type A operation would constitute an electric utility company under the Holding Company Act, depending on various circumstances. There is a greater chance that a Type B venture would attain that status. If either did and if either operation is conducted in a separate corporate form, there is a risk of serious difficulties under the Act. Very complicated exemptions exist; they operate differently depending on whether one focuses on Type A or Type B. They probably offer a realistic chance of insuring that on-site generation or co-generation activities do not bring the regulatory roof in under the Act. But the existence of this complex Act and the deterrent effects it may have on firms otherwise willing to try Type A or B raise the question of whether it wouldn't be appropriate to enact an outright exemption. Certainly the question should be explored, with particular focus on whether there is any realistic chance that the evils that led to the Act would be present

in either a Type A or Type B operation. I doubt it very much.

Environmental Law Considerations

A number of legal and institutional issues are wrapped up in the environmental considerations raised by on-site generation. As with the question of FPC versus state PUC jurisdiction, some of these issues relate to federalism. Federal environmental legislation often does not preempt more exacting state laws, and the latter, of course, often vary from region to region. Thus, if there is a desire to put on-site generation on an equal footing nationwide, thought should be given to uniform federal standards and preemption of state laws. If localism on this issue makes the best sense, we can expect on-site generation to develop more rapidly in particular areas.

A similar aspect is that federal and state environmental legislation and agencies may take different approaches to the regulation of the discharges of utilities and of industrial concerns. (Federal law perhaps tends to focus more on the former; state law has greater latitude as to the latter.) Depending on the locality, differing environmental restraints may influence the choice of a Type A versus a Type B approach, because one might be construed as activity by an industrial concern, the other as activity by a utility. It may be useful to explore such effects if there is some technological reason to prefer one Type over the other.

Most of the environmental law issues raised by on-site generation will relate to the Clean Air Act, 42 U.S.C. § 1857 et seq., the Federal Water Pollution Control Act, 33 U.S.C. § 1151 et seq., and, probably to a lesser degree, the National Environmental Policy Act, 42 U.S.C. § 4321 et seq. There will be a number of interpretive questions under these Acts that might be explored, such as whether boiler modifications or installations will trigger the new sources or new point sources provisions of the air and water acts and whether various FPC actions relating to on-site generation constitute major actions requiring the filing of environmental impact statements.

These issues are not likely to be particularly difficult analytically. The point in exploring them is really to determine whether increased on-site generation would represent a significant new environmental threat. In all likelihood it would not. Indeed, since it would lead to a net reduction in the combustion of fossil fuels, on-site generation should represent a net environmental gain. However, if there is any chance that enhanced on-site generation would threaten the spirit or letter of our environmental statutes, we should know about it before we promote increased use of the process.

Antitrust Law Considerations

Section 311 of H.R. 12461 provides, in part, that nothing in the Act shall relieve electric utilities from the operation of the antitrust laws. This is fully consistent with the premises of the Otter Tail Power case, supra, that the mere existence of an FPC and a Federal Power Act does not mean that utilities have a blanket exemption from the antitrust laws. I believe that this approach is eminently sound. It means, in part, that on-site generation or co-generation activities will have to pass muster under standard antitrust principles. Although further exploration of this subject is indicated, it seems clear that there will be no insurmountable antitrust difficulties.

Type B co-generation operations are likely to lead to joint stock ownership in a new corporate entity by a utility and an industrial entity. In antitrust terms, this will be viewed as an instance of joint venture or, perhaps, of merger. Since by definition the partners will not previously have been in actual competition, the question would be whether the deal foreclosed any significant prospect of potential competition. As it is unlikely that the partners are (or are perceived to be) potential entrants into each other's markets, there seems little likelihood of antitrust liability.

An industrial concern engaging in on-site generation may seek a multi-year output contract with a utility to assure a stable market for any electricity produced but not consumed in-house. Under

certain circumstances, such exclusive dealing relationships can raise antitrust difficulties, but the circumstances seem unlikely to arise in this area. Similarly, although this is not the place to attempt a definitive opinion, it seems that theoretical issues under notions of monopoly and price discrimination are just that -- theoretical.

Tax Law Considerations

On March 17, 1976, before the Senate Finance Committee, Treasury Secretary Simon reiterated the Administration's commitment to an electric utilities tax program. Under this program, the Administration seeks certain modifications to the tax code to stimulate electric utilities to construct additional facilities devoted to the use of fuels other than petroleum products. The modifications sought from Congress would include such things as: increasing the investment tax credit permanently to 12 percent for all electric utility property except oil-burning generating facilities advancing the date at which depreciation of utilities property may commence; and sheltering shareholders of a regulated electric utility from certain dividend taxes. These proposals may or may not be sound. Their relevance here is that they indicate that we are unlikely soon to see a roll back in Congress' 1975 increase in tax breaks for utilities (in the form of increased investment credits). In this climate, there should be an exploration of the effect of such changes on a utility's willingness to undertake co-generation -- which might not qualify for usable investment tax credits, depending on the corporate form used -- when it has strongly favorable tax reasons for expanding its own facilities. Furthermore, if tax advantages are to be used as an important means for expanding the country's electric power generating capacity, thought should be given to extending those tax advantages explicitly to the development of on-site generation and co-generation.

In the tax area we have, once again, an example of incentives to prefer Type A versus Type B, or vice versa, that may have no

relationship to the technical advantages, if any, of one form of generation of power over the other. If utilities are to receive special tax credits, obviously there will be an important incentive to prefer Type B to Type A and to insure that Type B is fashioned in a way to preserve tax benefits. If the exploration of on-site generation to be mandated by subsection 310(c) leads to the conclusion that one Type is to be preferred over another, specialized tax advantages may be the way to accomplish the desired result.

Conclusion

There is no effort here to list all the legal issues raised by on-site generation. For example, I have not dwelt on state law issues or corporate law issues. Nor, as another example, have I addressed whether other provisions of H.R. 12461 would themselves effect on-site generation. (As an aside I note that section 202 seems to be drafted in a way to insure that Title II of the bill would not encompass on-site generation.) The point is simply that a number of such issues are unavoidably raised by on-site generation and should be addressed in the study called for by subsection 310(c).

As a final thought, I note that, as to on-site generation, H.R. 12461 represents something of a step backward from the predecessor bill, H.R. 10100. A study of the subject has replaced certain requirements for actual implementation. (Compare H.R. 12461, subsection 310(c), with H.R. 10100, section 205.) This exhibition of caution is probably wise, for on-site generation should be explored with care before brought on-stream in a significant way. On the other hand, I hope that the transition from H.R. 12461 to H.R. 10100 does not represent a weakening of resolve to push forward, under the appropriate ground rules, with on-site generation. An energy source of such apparent appeal and promise simply must not be neglected in today's energy environment.

STATEMENTS OF GORDON CULP, HON. FLOYD J. FITHIAN,
COMMISSIONER DAVID SWEET, AND LOUIS J. CARTER

(1311)

Testimony on Behalf of
Pacific Northwest Utilities Conference Committee
on H.R. 12461

Before the Subcommittee on Energy and Power,
Committee on Interstate and Foreign Commerce,
United States House of Representatives
April 9, 1976

INTRODUCTION

Mr. Chairman: Thank you for the opportunity to appear today. My name is Gordon Culp, and I am counsel to the Policy Committee - Pacific Northwest Utilities Conference Committee. The Policy Committee is composed of representatives of 106 publicly-owned electric utilities, and 5 investor-owned utilities, together with 16 industrial companies that receive electric service directly from Bonneville Power Administration of the Department of the Interior. A list of the represented organizations is attached as Exhibit 1. The listed utilities provide electric service to the people of Oregon and Washington and parts of Idaho, Montana and Wyoming -- a population of about 6 million. They also serve small areas of Utah, Nevada and California.

Our testimony on this bill will concern possible adverse effects on regional programs of the Pacific Northwest electric power industry. This statement contains views that are supported by the entire Policy Committee; and, naturally, on wide-ranging matters such as this, there are differences of opinion within the group. Therefore, the statement does not describe all objections or the full intensity of opinion held by various members.

THE PACIFIC NORTHWEST ELECTRIC SYSTEM IS UNIQUE

The electric power industry in the Northwest is unique in both the physical characteristics of the electric system and the cooperative working arrangements among the various entities involved.

The Physical System. The electric system is a large, fully integrated and coordinated system serving a total peak load of approximately 25 million kilowatts and providing

15 million kilowatts of dependable average energy. It is crucial to recognize, in reviewing this legislation, that the Northwest system is the only major system in the country which is predominantly based on hydroelectric resources. At the present time over 80% of both the peaking capability and the average energy production come from hydro facilities.

Intense efforts are under way to construct hydro projects at limited remaining locations, and additional generators can be installed at several existing dams. If such additions can be kept on schedule, they will produce needed amounts of additional peak but very little additional dependable average energy. The region must provide the additional needed energy by adding coal-fired and nuclear plants. The construction and use of hydro for peaking and the addition of thermal plants to pick up growth in energy load is clearly the most efficient and desirable way to manage a system, like ours, where that choice is available. And the opportunities and problems associated with peak shifting or peak reduction on the Northwest system are much different from those confronting systems that must add thermal capacity to meet all of their growth in peak loads. The distinction between peak and energy is vital to an understanding of the difference between thermal and hydro systems and is explained in Exhibit 2.

All electric facilities in the Pacific Northwest are tied together electrically, mainly through the regional transmission grid built and operated by Bonneville Power Administration. The region is also interconnected with all the 14 Western States and British Columbia through high voltage interconnections.

Mutual Working Arrangements. All types and sizes of electric power organizations are included in the regional power system -- some of the oldest and largest public power agencies; public agencies and cooperatives ranging down to smallest sizes; investor-owned utilities which are small-to-medium size by national standards; the Corps of Engineers; Bonneville Power Administration; and the Bureau of Reclamation. Public agencies participate as owners in all parts of the industry: generation, transmission and distribution. The same is true for the investor-owned utilities. Many of the region's generating plants are jointly owned by publicly- and investor-owned utilities. BPA markets power to utilities and markets some power directly to certain industrial companies that are large users of electric power.

In order to properly develop the hydroelectric capabilities of the Columbia River and its tributaries, early co-operative arrangements were made among Federal, non-federal

public, and investor-owned power organizations. Continued close cooperation is essential in order to plan, finance, and use the very large thermal plants and transmission network needed for a modern, efficient and reliable system. For these purposes, many different, but interrelated, arrangements have been made on a voluntary basis as needed. A partial list of contractual arrangements and other cooperative ventures now at work in the region is attached to this statement as Exhibit 3.

THE PROBLEM FACED BY NORTHWEST UTILITIES

The fundamental problem in the Northwest is: How to finance, build, and operate the facilities that will produce the necessary amounts of energy when the energy is needed. Many factors contribute to this problem, including the capital crunch, general inflation of the economy, extraordinary inflation in the prices of fuels, the need to conserve fossil fuels and secure energy independence, environmental restraints on development of additional power facilities and fuel sources, and multiplication of safety requirements for nuclear energy resources.

We emphasize the need to produce the necessary amounts of energy. It is in the interest of no one that more energy be used than is really necessary for the public well-being. Electric utility people understand that, and they are trying to improve public understanding of the need for conservation and wise use of resources. Moreover, under the fundamental economic conditions that exist today and will continue into the foreseeable future -- conditions which determine that energy from new facilities will be vastly more expensive than energy from existing systems -- it is contrary to the economic self-interest of all electric utility managers, as well as all consumers, to construct facilities faster than they are really needed. In the case of investor-owned utilities, it is also contrary to the self-interest of stockholders. In short, there is no motivation to overbuild. On the other hand there is an obligation to build what is necessary, as clearly stated in the opening declaration of this Bill -- ". . . the continued generation and transmission of an adequate supply of electrical energy at reasonable rates is critical to the Nation's defense, a sound and stable economy, and the general health and welfare of the people of the United States" That declaration properly states the legal and social responsibility of the electric power industry, which responsibility is, and will continue to be, recognized by electric utilities in the absence of this legislation.

IMPACT OF THE BILL ON NORTHWEST PROGRAMS

The regional program of the Pacific Northwest is a complex interrelationship among all segments of the industry to carry out their responsibilities, using every available source of financing and sharing the benefits of the most advanced technology and operating techniques. It is a co-operative program of very long standing, and we believe it has resulted in immense benefits to the people of the region. The program requires a high degree of flexibility in order to design and execute the complex financing, sale, exchange and operations arrangements that will take advantage of the unusual physical and organizational characteristics of the system. We believe that H.R. 12461 would reduce flexibility, thereby inhibiting our regional program and increasing costs to our consumers.

Our study has not progressed to the point where we can analyze all effects this Bill might have in our region, but we will mention a few examples.

(a) In the Northwest, a high proportion of peaking capability comes from, and will continue to be provided by, hydroelectric sources. So the effects of peak load shifting are much different than on other systems. For instance, peak load pricing, required by the bill, would not reduce our need for large thermal plants, because they are needed to provide base load energy; and addition of those thermal plants imposes our greatest financial burden by far. The cost of implementing peak load pricing would merely add to the cost that must be borne by our customers.

(b) The cost base provisions of this bill would probably require a rate increase to general consumers and a decrease to electro-process industries. This is because the cost per kilowatt hour to BPA of serving high load factor electro-process industries is less than the cost per kilowatt hour of serving lower load factor customers.

(c) Many of the planning and siting provisions of the bill also appear to be unnecessary to the Pacific Northwest. Loads and resources planning and forecasting has been done on an overall regional basis for many years, and the techniques for this work are being reviewed and updated constantly. Plant sites must be approved by state agencies in all Northwest states after a consideration of all criteria contained in the bill. Public input to these procedures is active and spirited. The State Governments of Washington, Oregon and Idaho are actively pursuing methods to coordinate

state activities in planning and siting at the Gubernatorial level through the Northwest Regional Commission, and other efforts are proceeding at the departmental and regulatory commission levels. Thus, planning and siting are being reviewed, tested and contested constantly and in great depth; and the addition of some of the Federal requirements in the bill, we believe, would duplicate present activities and therefore add costs and delay to procedures which already border on interminable.

(d) We believe the provisions requiring evidentiary hearings and encouraging further litigation are unnecessary and would be harmful in our region. The state regulatory commissions in the Northwest have been very diligent in holding rates down and otherwise protecting the interests of the consuming public. Also, group and individual intervenors have broad rights, and have shown no reluctance, to participate aggressively in our regulatory commission proceedings and subsequent court reviews.

The effect of interposing new federal procedural rules on Northwest consumer-owned agencies and their constituency -- which, incidentally is over 60% of the people of the State of Washington -- would be very unfortunate. Increasing the opportunities and financial rewards for litigation would, in effect, interfere with these consumers' present rights to control energy policies directly and through their own elected representatives. Rate hearings in our city councils or before our utility district and cooperative boards are spirited exercises in participatory democracy, and those consumers should not be isolated from decisions that affect them.

(e) As a final example, our hydro system produces large amounts of secondary energy from time to time, depending on the level of streamflows. Such energy cannot be depended upon to carry normal loads because it comes and goes with little warning as the weather changes. However, it can be used to permit thermal plants to shut down, thus saving fuel. Such energy delivered to the Southwest over the Pacific Northwest - Southwest Intertie during the last two years was the equivalent of 55,000,000 barrels of oil. Sales and exchanges of this energy must be arranged quickly or the opportunity passes. Imposition of the formal rate and contract requirements of the bill would prevent this practice, the water would be spilled, and valuable resources would be wasted.

CONCLUSION

We have demonstrated our concurrence with those objectives of the Bill which are directed to regional planning, cooperative efforts for provision of an adequate power supply, and the maintenance of the lowest possible cost to the ultimate consumer. However, we feel that national legislation such as this bill, which would add a new set of rules intended to apply in all regions, would impose rigidity upon our future efforts. Some of our members believe such loss of regional flexibility would merely cause delay and increased costs. Others fear it could virtually destroy current efforts. In any event, we urgently suggest that much more study be given to the intended and unintended effects of this type of legislation before the Congress determines whether it is an appropriate step to solving the problems involved in electric power supply.

Thank you very much for the opportunity to express these views.

LIST OF ORGANIZATIONS WITH REPRESENTATION
ON THE POLICY COMMITTEE --
PACIFIC NORTHWEST UTILITIES CONFERENCE COMMITTEE

Public Agencies and Cooperatives

Albion, City of	Firecrest, Town of
Bandon, City of	Flathead Electric Cooperative, Inc.
Benton County PUD	Forest Grove, City of
Benton Rural Electric Association	Franklin County PUD
Big Bend Electric Cooperative, Inc.	Glacier Electric Cooperative, Inc.
Blancly-Lane Electric Cooperative Association	Grant County PUD
Blaine City Light	Grays Harbor County PUD
Bonniers Ferry, City of	Harnay Electric Cooperative, Inc.
Burley Municipal Distribution System	Hayburn, City of
Canby Utility Board	Hood River Electric Cooperative
Cascade Locks City Light	Idaho County Light & Power Cooperative Association, Inc.
Central Electric Cooperative, Inc.	Idaho Falls, City of
Central Lincoln PUD	Inland Power & Light Company
Centralia, City of	Kittitas County PUD
Chelan County PUD	Klickitat County PUD
Cheney, City of	Kootenai Electric Cooperative, Inc.
Clallam County PUD	Lane Electric Cooperative, Inc.
Clark County PUD	Lewis County PUD
Clatskanie PUD	Lincoln Electric Cooperative, Inc. (Montana)
Clearwater Power Company	Lincoln Electric Cooperative, Inc. (Washington)
Columbia Basin Electric Cooperative, Inc.	Lost River Electric Cooperative, Inc.
Consumers Power, Inc.	Lower Valley Power & Light, Inc.
Coos-Curry Electric Cooperative, Inc.	Mason County PUD No. 1
Coulee Dam, City of	Mason County PUD No. 3
Cowlitz County PUD	McCleary Light & Power
Declo, City of	McMinnville, City of
Douglas County PUD	Milwate Electric Cooperative, Inc.
Douglas Electric Cooperative, Inc.	Milton-Freewater Light & Power
Drain, City of	Waldoko, City of
East End Rural Electric Company Ltd.	Wenatchee Electric Cooperative, Inc.
Estacada Power & Light Company	Wenatchee, City of
Ellensburg, City of	Wenatchee Valley Electric Cooperative, Inc.
Elmhurst Rural Power & Light	Northern Light, Inc.
Elmore River & Electric Board	Northern Wells County PUD
Fall River Rural Electric Cooperative, Inc.	Okanogan County Electric Cooperative, Inc.
Ferry County PUD	Okanogan County PUD

Orcas Power & Light Company
 Pacific County PUD No. 2
 Parkland Light & Water Company
 Pend Oreille County PUD
 Peninsula Light Company, Inc.
 Port Angeles, City of
 Prairie Power Cooperative, Inc.
 Raft River Rural Electric Cooperative,
 Inc.
 Ravalli County Electric Cooperative,
 Inc.
 Richland, City of
 Riverside Electric
 Rupert, City of
 Rural Electric Company
 Salem Electric
 Salmon River Electric Cooperative,
 Inc.
 Seattle, City of
 Skamania County PUD

Shoshomish County PUD
 South Side Electric Lines, Inc.
 Springfield Utility Board
 Sumas, City of
 Surprise Valley Electrification
 Corp.
 Tacoma, City of
 Tanner Electric
 Tillamook PUD
 Umatilla Electric Cooperative
 Association
 Unity Light & Power Company
 Vera Irrigation District #15
 Vigilante Electric Cooperative, Inc.
 Wahkiakum County PUD
 Wasco Electric Cooperative, Inc.
 Wells Rural Electric Company
 West Oregon Electric Cooperative, Inc.
 Whatcom County PUD

Investor-Owned Utilities

The Montana Power Company
 Pacific Power & Light Company
 Portland General Electric Company

Puget Sound Power & Light Company
 The Washington Water Power Company

Bonneville Direct Service Industrial Customers

Aluminum Company of America
 Alumax, Inc.
 Anaconda Aluminum Company
 The Carborundum Company
 Crown Zellerbach Corporation
 Georgia-Pacific Corporation
 Hanna Nickel Smelting Company
 Inthalco Aluminum Corporation

Kaiser Aluminum & Chemical
 Corporation
 Martin Marietta Aluminum Inc.
 Oregon Metallurgical Corporation
 Pacific Carbide & Alloys Company
 Pennwalt Corporation
 Reynolds Metals Company
 Stauffer Chemical Company
 Union Carbide Corporation

DESCRIPTION OF PEAK AND ENERGY

There is a great difference between a thermal system and a hydro system that makes the distinction between peak capability and energy capability vital to understand.

A thermal (steam) generating plant of 1,000,000 kilowatts could, if fuel is available and ignoring the time it must be shut down for maintenance, generate 1,000,000 kilowatts all of the time. So its maximum ability to generate, which is peak, and its average ability to generate, which is energy, is, roughly speaking, the same.

A hydro plant can generate, on the average over the year, only with the amount of water that is in the stream -- no more. Thus its average -- its energy capability -- is controlled by water. Let us say that works out to 500,000 kilowatts of energy. However, because the reservoir can store water, it can generate, at times, at a much greater rate than its average. It can turn off the water flow -- generating very little for a time -- then let it all out at once, generating a great amount for a short time on peak. A 500,000 average plant might have enough generation installed to produce 2,500,000 kilowatts during this short time -- or peak. This is called a 20% plant factor. The Northwest Power Pool System annual load factor (system annual average energy load divided by the annual peak load) is about 60%. Most hydro projects are built for plant factors ranging between 40% and 10% (depending on flexibility needed for load requirements and for water management for non-power purposes). Thus a hydro system can provide peak by installing more machines. But its energy can never be greater than nature provides in annual rainfall.

The Northwest has already largely developed all the energy potential in the water -- there is no more. But we have the opportunity to add generators, thus increasing hydro peaking capability.

SOME COOPERATIVE WORKING ARRANGEMENTS
IN THE PACIFIC NORTHWEST

The following is a partial list of contractual arrangements and other cooperative ventures now at work in the electric power industry in the Pacific Northwest.

1. Northwest Power Pool. The Northwest Power Pool was formed in 1941 and was instrumental in carrying out orders of the War Production Board to maximize production of electricity for the Second World War effort. It is a voluntary organization, now composed of 19 members, including Bonneville Power Administration, the Corps of Engineers, the Bureau of Reclamation, three cities, three public utility districts, one municipal joint operating agency, one Canadian provincial power authority and eight investor owned utilities, including one in British Columbia. The Pool coordinates the operations of the regional power system within the constraints of the ownership rights and contractual relationships among the various entities. Some operating pools existed between various groups of utilities prior to formation of the Northwest Power Pool (the City of Seattle - City of Tacoma arrangement dates from 1924) and several other pooling arrangements have been formed since that time; but all operate within the overall pooled operation of the Northwest Power Pool.

2. Pacific Northwest Utilities Conference Committee. PNUCC was formed in 1946. In its earlier years the membership was composed of several investor-owned utilities and several major municipalities and public utility districts. It has long prepared and published the West Group Forecast, the definitive annual publication of regional loads and resources forecasts for the ensuing decade. It also serves as a regional body for review and comment on power-related projects in the Pacific Northwest carried out by the Corps of Engineers, the Bureau of Reclamation, and Bonneville Power Administration. In recent years the Policy Committee was formed, expanding representation to all of those organizations listed on Exhibit 1. Thereupon, the functions were expanded to the review of a wider spectrum of problems relating to future power supplies, to carry out technical studies of various kinds, and otherwise to support and assist regional planning efforts.

3. Central Columbia Hydroelectric Projects. There are many hydroelectric projects in the Northwest from which more than one utility share the output. Perhaps the most illustrative example is a series of four major hydroelectric projects on the main stem of the Columbia River completed between 1959 and 1967 -- Priest Rapids, Wanapum, Rocky Reach, and Wells. The total nameplate capacity of these projects is over 4,500,000 kilowatts. Each of the projects is owned by a public utility district and was financed and built under complex contractual arrangements whereby shares of the total output of the project were sold to various investor-owned utilities and to other public agencies. The owning public utility districts have certain rights to withdraw some of the power as needed on their own systems. The owners work with purchasers' committees to operate the dams in accordance with the needs of each individual system involved, and all projects are coordinated in the regional system.

4. Washington Public Power Supply System. The Supply System, organized in 1957, is a municipal corporation and a joint operating agency of the State of Washington. Its members are 18 operating public utility districts and three cities in Washington. It was formed to build and operate generation and transmission facilities needed to supply public agency bulk power requirements. It now owns and operates one nuclear project and one hydroelectric project and it has five nuclear projects (a total capacity of approximately 6,000,000 kilowatts) in various stages of construction and authorization. The total investment in these projects will be about \$6,000,000,000, and further needed projects are in the earlier planning stages. All of the Supply System projects involve highly specialized financing, construction and operations agreements involving Bonneville Power Administration, many public agencies in addition to the Supply System constituents (110 public agencies in one instance) and sometimes also investor-owned utilities. An organization to perform similar functions in Oregon is now in the advanced planning stages.

5. Pacific Northwest Coordination Agreement. In 1964, after experience under two short term agreements, a 39 year contract was entered into by Bonneville Power Administration, the Corps of Engineers, the United States Entity under the Treaty with Canada (described below) three cities in Washington and Oregon, five public utility districts of the State of Washington, five investor-owned utilities, and one transmission company. This contract controls the seasonal operation of the hydro system of the entire region to provide for the region essentially the same benefits that would result

if the system were in single ownership. An additional coordination agreement has since been executed and now controls the operation of the entire hydro system on an hour-to-hour basis.

6. Canadian Treaty And CSPE. In October, 1964 the Treaty With Canada Relating to the Development of the Upper Columbia River was effectuated. The treaty called for the construction of three major dams to be built on the Canadian segment of the Columbia River and a major tributary, and permitted the construction of Libby Dam in the United States and some resulting flooding of lands in Canada by the Libby Reservoir. The treaty could be concluded only upon sale, to a single non-Federal entity in the United States, of the Canadian share of downstream power benefits under the treaty. It was also required that the purchase price for the Canadian share of the benefits be paid in one lump sum in advance. Columbia Storage Power Exchange was formed as the single U. S. purchaser of the Canadian benefits and financed the \$314,000,000 price of such benefits. CSPE is a non-profit corporation which assigned the Canadian benefits to 41 public agencies and investor-owned utilities, each of which reassigned such benefits to Bonneville Power Administration in exchange for specified amounts of capacity and energy. Completion of this arrangement required highly specialized agreements and rulings among all of the affected utilities, Federal power agencies, British Columbia provincial authorities, American and Canadian diplomatic officials, state regulatory and taxing authorities, the Internal Revenue Service, the Federal Power Commission, the Securities and Exchange Commission, and other bodies. The Pacific Northwest-Pacific Southwest extra high voltage interties were constructed soon after conclusion of the Treaty; and that project, itself, was a cooperative effort involving Bonneville Power Administration, the Bureau of Reclamation, investor-owned utilities in Oregon and California, and several municipalities in the Southwest. The interties permitted the benefits of the Treaty to be further shared through contractual arrangements with the State of California, the Central Valley Project, and several publicly- and investor-owned utilities in the Southwest. (The interties now permit sharing of many other benefits among additional parties.)

7. The Hanford Project. In 1966, the Washington Public Power Supply System completed construction of a steam electric generating plant operated in conjunction with the United States Atomic Energy Commission's New Production Reactor at Hanford. This plant uses excess steam from a reactor which was built primarily for production of weapons grade plutonium. The rights to the output of the plant are shared equally between

public agencies and investor-owned utilities, and such rights are exchanged with Bonneville for determinable amounts of power and energy. This arrangement required design of complicated agreements among Bonneville Power Administration, the Atomic Energy Commission, 71 public agencies and cooperatives, and five investor-owned utilities. Specific statutory authority was needed to authorize dual use of the reactor.

8. Centralia Project. The Centralia Project is a coal-fired thermal plant completed in 1972. It has a capacity of 1,400,000 kilowatts. The project is a tenancy in common in which the owners are four investor-owned utilities, two cities and two public utility districts. The coal supply is owned by two of the private utility venturers. The timing of construction was arranged to permit temporary sale of power to Bonneville Power Administration and the Central Valley Project of California, utilizing the Pacific Northwest-Pacific Southwest interties.

9. The Hydro-Thermal Accord. The Hydro-Thermal Accord is a term used to describe the understanding, first arrived at in 1969 under which the regional transition from an almost wholly hydro base to a mixed system of hydro and thermal resources is being accomplished. In essence, the Accord resolved that the Federal Government would continue development of the regional transmission grid and complete the Federal Columbia River hydro system, and that the publicly- and investor-owned utilities would finance and build some necessary additional non-Federal hydro projects and additions and would finance and build the needed thermal power resources. The purpose is to secure access to every available source of financing and proceed on a coordinated basis to meet all regional needs with a minimum of expense, waste and duplication. The Accord, and all arrangements leading to it, permit and encourage full participation by utilities of all kinds and sizes.

10. Other Examples. There are many other large ventures in which several utilities have full participation or ownership; e.g., the Trojan and Pebble Springs nuclear projects in Oregon (which will have total capability in excess of 3,000,000 kilowatts) and the Colstrip coal-fired project in Montana (about 2,000,000 kilowatts), all of which are parts of the hydro-thermal accord.

TESTIMONY OF
HON. FLOYD J. FITHLIEN, J.C.
before the
INTERSTATE AND FOREIGN COMMERCE COMMITTEE
SUBCOMMITTEE ON RAILROADS AND ROADS

Mr. Chairman, Members of the Committee, I would like to thank you for the opportunity to appear before you today to testify in favor of the Utility Rate Reform and Regulatory Improvement Act.

The Electric Utility Rate Reform and Regulatory Improvement Act is a comprehensive proposal which directly addresses itself to the basic problems in the power industry today. I am convinced that legislation of this type is an absolutely essential component in our emerging national energy policy; a policy which should include incentives for conservation and equitable pricing for energy of all types.

I would like to comment on two provisions of the bill which I believe are particularly significant--the lifeline provisions and the limitation on the use of the fuel adjustment clause.

The most damning indictment against current utility rate structures is their lack of economic incentives for conservation. The way most state electrical utility rate schedules work, the more you buy, the cheaper it gets. The less you buy, the more expensive it gets. Many consumers I have talked to have objected violently to the "Catch 22" effect in electricity pricing which rewarded those who conserve with higher bills.

The basis for our current utility rate structures has been promotion of energy use. Rate schedules designed to promote electricity use, such as the declining block rate, special rates for electric home and hot water heating, and similar rate devices may have been acceptable during an era of easily accessible and cheap energy. But to continue them and the type of energy waste they encourage today would be tragically shortsighted.

We simply cannot ignore the fact that millions of people in this country are suffering considerable hardships as a direct result of inequitable pricing policies. Senior Citizens and others on fixed incomes are particularly hard hit by rate increases.

Recent studies by the Washington Center for Metropolitan Studies have shown that there is a direct relationship between household income and energy consumption--the more you earn, the more you burn. But the relationship between energy consumption and the percentage of family income spent for that energy is reversed. The poorer family uses less energy, but a bigger slice of their income goes to paying for that energy. Current rate structures, moreover, dictate that low income small users pay the highest possible rates for power.

The lifeline proposal contained in this act provides an out for retirees and moderate income families willing to cut back to the basic lighting and refrigeration needs. It does this by enabling residential consumers to pay rates equal to the lowest rate which the utility charges any other retail customer. Lifeline rates for those who conserve will mean higher rates toward the top of the rate schedule--non-conserving residential users and industry. There is a price to pay, yes, but we must remember that we are already paying part of that price through increased public welfare, Social Security and other income supplement payments. The higher rates for larger users will, of themselves, encourage conservation where it's needed most.

It is my understanding that California recently passed a utility lifeline law and that Maine is currently experimenting with a pilot lifeline proposal. These states are to be commended for taking the initiative on this difficult national issue. But the fact remains that

utility rates structures are a national problem, one we can't turn our back on.

Limitations the bill places upon fuel adjustment clauses seem to me to be particularly appropriate today. The automatic fuel adjustment clause provides little or no incentive for utilities to hold down fuel prices and vigorously litigate contract violations with suppliers. Utilities, such as Philadelphia Electric and Pacific Gas and Electric, Virginia Electric Power, and Consumers Power Company and others have voluntarily backed out of standing contracts with suppliers to renegotiate at higher prices. Since fuel accounts for nearly 60% of electrical utility operating expenses, more vigorous action on the part of utilities in obtaining and maintaining favorable fuel contracts seems to be in order. The only way to bring this about is to give the utilities themselves a stake in holding down fuel costs.

Under the provisions of the bill, increased fuel costs amounting to less than 5% may not be passed on to consumers without resorting to the normal regulatory rate-making channels. When fuel costs jump more than 5%, only 85% of the excess may be passed on. Fuel purchases from affiliated fuel producers, such as "captive" mining operations, are correctly excluded from fuel adjustment clauses.

The Electric Utility Rate Reform and Regulatory Improvement Act is a sound, vitally needed piece of legislation. On behalf of the people I represent, I urge you to take prompt and favorable action on the measure.

STATEMENT OF

DAVID C. SWEET, COMMISSIONER
OHIO PUBLIC UTILITIES COMMISSION

BEFORE THE

SUBCOMMITTEE ON ENERGY AND POWER
OF THE
HOUSE INTERSTATE AND FOREIGN COMMERCE COMMITTEE

April 9, 1976

Mr. Chairman and Members of the Subcommittee:

As a member of the Ohio Public Utilities Commission, I welcome the opportunity to testify today in support of immediate action by the U. S. Congress, through H.R. 12461, to: 1) establish minimum federal standards for reform of electric rate structures; and 2) to provide support and incentives to state regulatory agencies to develop and implement innovative approaches to change the way electricity is priced in this country. I believe a radical overhaul of electric rate structures is the most effective way to halt runaway utility prices and give consumers control over how much electricity they use and the price they want to pay for it.

ELECTRIC RATES: HISTORICAL BACKGROUND

In the State of Ohio, the basic approach -- the framework for electric utility rate structures used today was developed decades ago. It was the era of "Reddi-Kilowatt" -- of cheap, abundant energy. It was a time when most Ohio electric utilities filed for rate decreases with the Public Utilities Commission. It was an era of consumer apathy about utility rates and about conservation of resources and preservation of the environment. It was a time that put only moderate demands on small, inconspicuous public utilities commission staffs. Decisions about the way electric rates were structured were made on an ad hoc case-by-case basis -- but most often -- utility rate regulation in Ohio concentrated on investigating capital and operating cost figures in order to set a reasonable rate of return. The Commission regulated how much money electric utilities could collect from their customers -- but usually didn't regulate how that money

was collected. When regulation of utility pricing policies occurred at all, it was confined to preventing obvious discriminatory pricing practices.

Ohio utilities, therefore, had the freedom to design rates to produce the highest profits. And utilities discovered that the best way to maximize profits was to encourage rapid growth in consumption. The result was the pricing formula still used today in Ohio -- the declining block rate structure -- the more electricity used, the less that electricity costs per kilowatt hour. Fortunately, each additional unit of generating capacity cost less resulting in declining prices for consumers and a major stimulus to economic growth and development. The cycle of cheap fuel -- low prices -- increasing demand -- and construction of new generating plants at declining costs was repeated over and over through the 1960's.

In the 1960's, the Ohio Public Utilities Commission -- like many state regulatory agencies in the U. S. -- made an important change in the way utility prices were regulated. That change was the creation of automatic fuel pass-through clauses. The purpose was to minimize the impact of regulatory lag by automatically passing through to all utility consumers on their monthly bills increases in the wholesale price of fuel -- natural gas and coal. Those increased costs were "rolled in" or averaged-out over the entire rate structure -- so all consumers shared the additional costs. In the 1960's, the fuel adjustment clauses caused little controversy because fuel was ample and

costs increased at a steady, predictable rate. Coal prices were determined by long-term contracts and natural gas prices were regulated by the FPC. But the creation of the automatic fuel adjustment clauses was the first step in the erosion of traditional rate base regulation.

Unfortunately, the traditional approach to utility pricing has simply proved inadequate to deal with the severe energy problems of the 1970's. In 1963, there were two electric rate cases filed with the Ohio Public Utilities Commission. The utilities involved requested a total \$2.6 million DECREASE in rates. In 1975, 25 rate cases were filed by Ohio electric utilities with the PUCO, requesting a total of \$241.6 million in rate increases.

What happened?

First, the cost of coal has increased dramatically in the last two years due to breaking of long-term contracts and purchases of expensive "spot" coal. Fuel costs for the nation's privately-owned electric utilities increased 89.5% between July, 1973 and July, 1974, for example. Rise in fuel costs triggered a sharp rise in electric prices: the rates of the 50 largest utilities in the U. S. rose by an average of 55.4% during the first half of 1974.

The leap in electric rates has begun to reverse the steady growth in demand for electricity by consumers. Ohio utilities have forecast a 10.2% increase in sales from 1975 to 1976, but the most recent actual data available for total electric sales in Ohio show a 0.6% drop from 1973 to 1974 and are not expected to recover to anywhere near the level forecast by the utilities. But while overall demand for electricity has begun to drop, "Peak" demand -- the highest demand for electricity on any given day or time of day -- has continued to rise or at least remain level.

In recent years, utilities have continued to invest in generating plants to produce enough electricity to carry the peak load a few hours a day. That generating capacity is underutilized most of the day. Frank Zarb, FEA administrator, has estimated that less than one-half of the nation's installed generating capacity was utilized in 1974 -- more than twice the capacity necessary to meet average load had to be available to meet peak demand. That means the U. S. has built 100% excess generating capacity just to handle peak load.

The electric utilities are now paying more for fuel, continuing to build generating plants to meet peak demand while their sales are falling. The result: 25 electric rate hike requests for \$241.6 million in Ohio last year.

The pressure for rate hikes is increased by the fact that current rate structures do not reflect the actual cost of producing electricity. Electricity can be as much as ten times more expensive to produce during peak hours than during off-peak hours because the small generators switched on during peak hours are the most expensive and inefficient to operate. But current rate structures charge consumers the same rate no matter when they use electricity. And so Ohio consumers cut-back their use of electricity to reduce their electric bills. But if they conserve during off-peak hours, electric utilities still need to raise their revenue to pay for generating plants to meet peak demand.

If daily peak demand for electricity could be "shaved", utilities could better utilize their existing capacity and reduce investment in new facilities. Zarb estimates that from \$50 to \$120 billion could be saved during the next ten years by reducing peak growth and improving overall electric utility load management. And that is why national minimum standards for rate structure reform should be adopted

as called for by H.R. 12461.

ELECTRIC RATE STRUCTURE REFORM

I believe there are three actions that should be taken immediately to solve the problems of skyrocketing utility rates and more efficiently utilize existing capacity rather than continuing to construct new generating capacity to meet peak demand:

- (1) State regulatory agencies must make reform and restructuring of electric rates a top priority. We can no longer afford to spend only about 10% of our time regulating rate structures and 90% of our time investigating rate of return. And we must abandon the ad hoc case-by-case regulation of electric rate structures and develop industry-wide policies on electricity pricing.
- (2) Utility rate structure reform should restructure prices to more accurately reflect the real cost of providing service. Consumers should make their decision to use an additional kilowatt-hour based on the true costs of producing that additional unit ("marginal" or "incremental" pricing) at the time they want to use that kilowatt-hour ("time-of-day" or "off-peak" pricing).
- (3) Regulatory policy should provide incentives for electric utilities: to use existing capacity more efficiently; to reduce the need for costly expansion of generating facilities; and to improve fuel buying practices.

NEED FOR FEDERAL FRAMEWORK

Unlike many of the state regulators who have testified in opposition to this bill, I support the major components in H.R. 12461 because the bill would establish a national framework -- a set of minimum standards to support and encourage this kind of electric rate reform -- while at the same time allowing state regulatory agencies the flexibility we need to undertake innovative approaches to electricity pricing.

The major concepts of H.R. 12461 can be implemented without expansion of the federal bureaucracy and I believe H.R. 12461 can provide a needed "prod" to reticent state regulatory agencies and investor-owned utilities to respond to the need for rate reform in the 1970's.

I am, however, opposed to H.R. 2633 because it would guarantee electric utilities a healthy rate of return and insulate utilities against some inflationary effects without any assurance of increased efficiency or rate relief for consumers. This bill would make more automatic the pass-through of costs to consumers. In addition, the bill offers no incentives or support for the kind of rate reform I believe is essential today if we are to begin reversing the spiral of rising utility bills.

Twelve months ago -- as a newly appointed Public Utilities Commissioner -- I might have agreed with the testimony of NARUC President James McGirr Kelly that federal involvement in the area of rate structure reform is unnecessary and undesirable. As a state official for the past five years -- serving first as state development director, and chairman of the Ohio Energy Emergency Commission and currently as a Public Utilities Commissioner -- I have seen that the federal government does not have the answer to all our problems and that many

solutions are developed and implemented at the state level. However, my experience with the problems and roadblocks to electric rate reform in Ohio in the last year have convinced me that federal framework for reform is both desirable and necessary if we want timely results. Delay in implementing rate structure reform means consumers will have to pay yet another round of rate increases.

The Ohio experience has been that both utilities and industrial consumers of electricity and natural gas have opposed efforts to adopt incremental or marginal cost pricing on the grounds that this kind of rate reform would put Ohio industries at a disadvantage in competing with industry in other states who have not adopted this pricing policy.

During the Commission hearing in Case No. 76-12-GA-COI, Mr. I. L. Briscoe, Vice President of Columbia Gas of Ohio, testified:

"Charging incremental prices to Ohio's industries while utilities in other states are selling gas at average or rolled-in costs can seriously impair the ability of Ohio industry to compete. . . . With incremental pricing some Ohio industries, faced with inability to compete with others incurring gas costs on a roll-in basis, may well move out of Ohio."

As former state development director, I want to make sure that any action I take as a regulator does not damage the economy of Ohio and its industrial backbone, or drive industry from the state. Although I disagree with critics who say that incremental pricing would be detrimental to Ohio's industry and economy, I believe the establishment of a set of minimum national standards would help to remove this roadblock to timely rate reform.

FUEL ADJUSTMENT CLAUSE

In regard to the provisions in Title II of H.R. 12461 regarding fuel adjustment clauses, I urge the members of the Committee to review the extensive work undertaken by the Ohio Commission to reform fuel adjustment practices in Ohio. (A copy of our analysis and a model FAC rule is submitted as an appendix.)

Based on staff and consultant analyses of the way FAC's were being used and monitored in Ohio and the alternatives, the Commission developed and implemented the toughest FAC rule in the U. S. As adopted and enacted by the Ohio General Assembly, the rule:

- * Requires electric utilities to separate all fuel costs from other charges and indicate on customer bills the total fuel charges in cents per Kwh and the change in fuel charges in cents per Kwh since the last billing.
- * Requires monthly reports and billing reviews of electric utilities' fuel practices and costs.
- * Requires annual reports and audits of electric fuel practices and costs -- including financial and performance audits.
- * Requires utilities to adjust downward consumers' bills, if, during annual audits, the PUC decides utilities did not use efficient fuel practices to avoid increased costs.
- * Requires an annual review of captive fuel costs.
- * Requires annual hearings for each major electric utility on their FAC.

The rule provides a uniform FAC, provides incentives for utilities to

reduce fuel costs, provides increased consumer protection from fuel cost abuse and expands PUC's monitoring ability.

CONSTRUCTION WORK IN PROGRESS

The majority of the Ohio Commission has worked for the repeal of the current Reconstruction Cost New Less Depreciation (RCNLD) rate making formula and adoption of an Original Cost formula. We believe Original Cost is more equitable, more comprehensible for consumers, would prevent Ohio utilities from reaping "windfall" profits and is consistent with most other state and federal regulatory practices.

While a progressive bill to repeal RCNLD has passed the Ohio Senate, a severely weakened version has passed the Ohio House.

One of the most costly amendments to the House-passed bill for Ohio consumers is allowance of Construction Work in Progress (CWIP) in the rate base. In 1974, Ohio utilities had more than \$2 billion worth of CWIP. These costs would have been added to the rate base already at \$17 billion for that year. Ohio consumers would have had to pay approximately \$167 million in higher bills -- \$17 for every man, woman and child in the state. I have opposed that amendment to permit CWIP in the rate base because Ohio utility consumers would be forced to pay for utility plant construction today when it would not benefit them for as much as six or seven years. I believe that inclusion of CWIP in the rate base reduces the incentive for more efficient utilization of existing plant capacity and thus discourages incentives for rate structure reform.

I am therefore opposed to that clause in Title II of H.R. 12461 that would permit inclusion of 66-2/3% of Construction Work in Progress in the rate base. And I strongly oppose Sec. 707, Title VIII of H.R. 2633 which would forbid regulatory agencies from prohibiting inclusion of CWIP in the rate base.

LOAD MANAGEMENT

Ohio's experience with investigation and implementation of load management techniques provides an excellent case study to support the need for federal support and incentives for rate reform.

Almost a year ago, the PUCO, Toledo Edison, Dayton Power and Light, Buckeye Power, Ohio State University and Motorola received a \$220,000 grant from the FEA to try several techniques for shaving peak demand. Ohio was one of 6 initial states to receive FEA funding for load management projects.

The Ohio project involved:

- * A survey of residential load characteristics;
- * An experimental off-peaking pricing schedule for residential users;
- * Experimental radio control to interrupt service to residential users to shave peak demand;
- * An experimental off-peak energy storage system;
- * A study of alternatives for industrial load management.

It has taken the Commission and Dayton Power and Light close to a year to develop an experimental time-of-day rate structure to use in a project with 100 volunteer residential users. At this rate, it will take many years to implement time-of-day pricing reform statewide

The proposal originally involved a two-part tariff-peak and off-peak -- and the use of 100 dual-registered clock-activated meters at a total cost of \$6,800. We found, however, that such meters can't implement an accurate price signal -- they can't, for example, recognize the difference between a weekday and a weekend.

We also discovered that we couldn't design a workable two-part tariff because we could not develop a "pure" off-peak energy cost. Rather than dilute the peak period charge, we decided to use a three-part tariff: off-peak, "shoulder" and peak.

To implement the three-part tariff, we need to use tape recording meters -- specifically -- 100 four-track tape recording meters and 300 single meters with initiators at a total cost of \$56,625.

It is clear from the Ohio experience, that development and implementation of time-of-day pricing by the states needs technical and financial support from the federal government to encourage innovative practices at the state and local level.

I, therefore, strongly endorse Sections 404 and 405 in Title IV of H.R. 12461. In fact, we wouldn't be where we are today in Ohio and many other states in terms of moving ahead on rate structure reform without the current Federal Energy Administration grant program.

To provide the Committee with an overview of progress in each state on rate reform, I am pleased to submit the Commission's staff compilation.

LIFELINE

As a Public Utilities Commissioner, I am very concerned about the ability of Ohio's low income and fixed income citizens to keep up with rising utility bills. I believe a comprehensive reform of current

rate structures will have a major impact on the needs and problems of these consumers. Such reform should include a "lifeline" concept which will closely reflect the economic realities of today, not yesteryear when the current rate structures were designed. However, I am not convinced that the "lifeline" rate suggested in H.R. 12461 will really lower the cost of essential utility services for low income consumers. A bill to establish a "lifeline" rate for the first 400 Kwh used has been introduced into the Ohio General Assembly and the PUCO is currently researching the "lifeline" concept with Ohio State University staff.

We have found in Ohio that low income doesn't necessarily correlate with low electric consumption. In fact, many low income families are heavy electricity consumers -- due to such factors as poorly insulated housing, amount of time spent at home, number of meals cooked, etc. In a recent survey of Columbus residents, we found:

- * 16.4% of high income area households consumed less than 400 Kwh during July, 1975;
- * 39.7% of medium income area households consumed less than 400 Kwh;
- * 61.5% of low-income households consumed less than 400 Kwh;
- * But about 6% of low-income area residents consumed more than 1000 Kwh, almost 19% consumed more than 620 Kwh.

I believe it may be possible to develop a lifeline concept consistent with sound economic principles as part of a total rate structure reform.

For example, an interim measure for reforming the current declining block rate structure might be to set rates for the end blocks -- the high volume consumption blocks -- to reflect the long-run incremental costs of additional capacity since demand in these blocks usually reflects the bulk of a system's growth. Where such marginal costs

exceed average costs, electric costs in these end blocks would be higher than the current average cost of service. However, since pricing these end blocks at the margin produces excess revenues, rates for the first, low-volume blocks, could then be reduced to below current average costs of production. This approach would provide a form of low "lifeline" rate without losing sight of the principal of marginal cost of service pricing.

CONSUMER REPRESENTATION

Finally, I would like to comment on the critical need for increased representation of consumer interests before state regulatory agencies.

Ohio law specifies that the PUCO cannot advocate or represent any party's interest in any case before it. The Commission must make its decisions solely on the record developed in each case.

In the last 12 rate cases before the PUCO, the utilities were represented, industries were represented, commercial establishments were represented -- everyone with an interest in the cases was represented by attorneys except residential rate payers.

We must have increased representation for consumers before the PUCO. I believe the most effective way to accomplish that is to establish an independent Public Advocate. I have urged the Ohio General Assembly to retain the Public Advocate provision in the current House-passed version of the RCN repeal bill. I would urge the Committee to provide incentives in H.R. 12461 for states to establish an independent Public Advocate and I would suggest that the Committee reconsider the clause in Title III, Section 308 establishing an Office of Public Counsel within the Federal Power Commission. I believe an office of public advocacy would be more effective as an entity independent of the

regulatory agency.

CONCLUSION

Electric consumers in Ohio -- and nationwide -- cannot afford any further delays in implementation of a thorough reform of the electric rate structure. In 1965, all Ohio electric consumers spent \$795.6 million on electric service. In 1975, Ohio consumers paid \$2.4 billion for electricity.

I urge the U. S. Congress to move quickly to: implement a set of minimum national standards for electric rate reform; provide state regulatory agencies with sufficient flexibility within that framework to respond to local needs; and provide the states with the kind of financial support and incentives needed to spur action on electric rate reform.

Thank you.

STATEMENT
OF
LOUIS J. CARTER
CHAIRMAN, PENNSYLVANIA PUBLIC UTILITY COMMISSION
BEFORE THE
SUBCOMMITTEE ON ENERGY AND POWER
OF THE
HOUSE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE
ON
H.R. 12461

April 9, 1976

Mr. Chairman and Members of the Subcommittee:

I appreciate the opportunity to be here today to discuss certain aspects of H.R. 12461, the proposed "Electric Utility Rate Reform and Regulatory Improvement Act".

I have been a member of the Pennsylvania Public Utility Commission since November 10, 1971, and have served as Chairman since August 20, 1975. I held the position of Assistant Counsel to the Commission during the period 1956-67. The views I express today are my personal views, and not necessarily those of the Commission or any other member thereof.

I am in general accord with the statement presented March 30, 1976 to this Subcommittee by my colleague, James McGirr Kelly, a member of the Pennsylvania Public Utility Commission, and President of the National Association of Regulatory Utility Commissioners ("NARUC").

H.R. 12461, in its basic design, would (1) prescribe standards by which State regulatory commissions must measure certain features of proposed rates in determining the reasonableness of such rates under State statutes, (2) amend the Federal Power Act with respect to certain criteria to be followed by the Federal Power Commission in ratemaking and in electric transmission

facilities, (3) provide for coordination of planning and siting of bulk power facilities, and (4) establish a system of advisory services and/or public counsel to assist in proceedings before State regulatory agencies and the Federal Power Commission. There are other important features of H.R. 12461, but these seem to be the four major items.

H.R. 12461 in many respects appears patterned upon the recently-enacted "Railroad Revitalization and Regulatory Reform Act of 1976" (P.L. 94-210). That legislation, dealing primarily with the Interstate Commerce Commission ("I.C.C."), prescribed special standards for determining the lawfulness of railroad rates by the I.C.C. It carried forward and made permanent the Rail Services Planning Office, and the Office of Rail Public Counsel, which initially were established in 1974 under the Regional Rail Reorganization Act of 1973 (P.L. 93-236). Indeed, H.R. 12461 adopts virtually verbatim the language from section 304 of the recent rail legislation, in establishing an Office of Public Counsel at the F.P.C. under section 308(a) of H.R. 12461. Moreover, the Office of Electric Utility Ratemaking Assistance, contemplated by section 207 of H.R. 12461, is akin to the Rail Services Planning Office, set forth in section 309 of the recently-enacted P.L. 94-210.

I, and most other State agency members, are opposed to the federal prescription of ratemaking standards to govern State proceedings. Conditions vary considerably throughout the Nation. The statutory standard in Pennsylvania is that rates be "just and reasonable", and free from unreasonable preference or advantage, and non-discriminatory. Similar flexible standards

are found in section 205 of the Federal Power Act, and in other federal legislation governing other regulatory agencies.

It would be inappropriate, in my view, to specify by rigid statutes such provisions that rates reflect cost to the maximum extent possible; that rates shall not decrease to any customer as consumption increases, except to the extent that the decrease reflects cost of service which decreases as consumption increases; that rates shall not exceed the lowest charge per kilowatt-hour at such time of use to any other electric consumer, unless the Governor determines an adequate alternative means has been implemented to alleviate the burden to low-income residential consumers; that certain political, promotional or institutional expenses may not be an operating expense; that automatic adjustment clauses be restricted to a maximum of 85% of the amount by which the actual covered expenses exceed 105% of the amount of the base period; or that no rate may include construction work in progress until certain other standards are complied with, and thereafter not in excess of 66-2/3% of such construction work in progress in the rate base, among other standards.

Of course, my objection to statutory provisions by no means is intended to imply that I disagree with some of the above standards in appropriate situations, and I have in the past expressed support for some of these concepts.

I support Title V of H.R. 12461, which concerns long-range coordinated area planning and siting of bulk power facilities.

On the other hand, I think present provisions in H.R. 12461 for advisory assistance to the State agencies may present problems.

The advisory service to State regulatory agencies would be administered by the Office of Electric Utility Ratemaking Assistance, which would be established within the Federal Energy Administration. Grants would be available to improve State agency staffing, and also for the encouragement of innovative rate structures. The grants to be administered by the Office for State agency staffing would be conditioned upon subsequent payment by utilities following expiration of the grants; and grants for rate innovation would be for ratemaking in compliance with the federal ratemaking standards to be imposed upon State agencies. There is a strong possibility that these provisions would conflict with Pennsylvania statutes regarding the State's P.U.C. budget.

Advocacy Before Regulatory Agencies

I have a special concern for features of H.R. 12461 bearing upon advocacy before State commissions or before the Federal Power Commission. I am strongly in favor of participation by so-called "consumer counsel" in proceedings. I believe it provides assistance to the decisional process, which justice requires.

Section 207 of H.R. 12461 would empower the Office established within the Federal Energy Administration to itself intervene in any State utility proceeding upon the motion of any party to the State proceeding, and the Office would have the same standing as any party to the State proceeding, including the right to seek judicial review of the State agency decision.

Section 208 provides that any electric consumer may intervene as of right in any State proceeding, and may collect attorney's

fees and other costs of litigation from the utility, if the utility's rates are found to be not in compliance with the federally prescribed ratemaking standards. This liability of the utility would be removed if the State itself provides compensation to persons who represent an interest which would not otherwise be adequately represented in rate proceedings, and which representation would meet other standards set forth in section 208(b)(2). Section 403 provides that the Office may make grants to the States to provide for the establishment and operation of programs to compensate consumer advocates which qualify under section 208(b)(2).

Section 308(a) would establish an Office of Public Counsel within the Federal Power Commission, to present the views of communities and users of services affected by F.P.C. proceedings, and to develop a public interest record before the F.P.C. Public Counsel would have the right to seek judicial review of any F.P.C. action to the same extent as any other party. In addition, the F.P.C. would be enabled to provide compensation for outside attorneys and for other costs, to any person representing an interest not otherwise adequately represented in the proceeding, and which representation would meet the same standards set forth for representation before State agencies under section 208(b)(2).

I have the following observations regarding the substantial commitment in H.R. 12461 for "consumer" and/or "public interest" advocacy before State regulatory agencies and the Federal Power Commission:

1. Competency. I believe that care must be taken to assure that consumer advocates, or others to be compensated under these federal funding programs for urging the public interest, should be competent. I emphasize my testimony on this score, given April 17, 1975, on S. 594 before a Subcommittee of the Senate Committee on Government Operations, The Utilities Act of 1975, at p. 332:

"I have probably tried more rate cases than anybody in this room. I know of my personal experience how much is required of a person in the presentation and the handling of a rate case from the standpoint of the consumer. It is not the kind of case that should be left to a young, inexperienced lawyer who may, for a variety of reasons, including the desire to get some small measure of notoriety, to learn the art of trying rate cases."

"It is a complex field that requires well paid men of experience, perspective, and commitment."

The current emotions which surround utility rate proceedings require strict assurances that consumer representatives which are to be funded by public money be experienced counsel in the area of regulatory agencies and Administrative law.

2. Review of I.C.C. Public Counsel. I believe this Committee should review the workings of the Office of Public Counsel, which has operated for two years within the I.C.C.'s Rail Services Planning Office, under Regional Rail Reorganization Act of 1973, before setting up a similar Office of Public Counsel within the Federal Power Commission. The I.C.C.'s Public Counsel was made permanent in the 1976 legislation, P.L. 94-210, and is now known as the Office of Rail Public Counsel. As I mentioned at the outset, section 308 of H.R. 12461 adopts virtually

verbatim the language from P.L. 94-210 in establishing an Office of Public Counsel within the Federal Power Commission.

My staff has reported views pro and con concerning the performance of the I.C.C.'s Public Counsel. On the one hand, there is the virtual inexperience with I.C.C. proceedings or I.C.C. law on the part of most, if not all, of the attorneys employed by the Office of Public Counsel; and there are the problems which generally arise when outside contractors are employed by Public Counsel. On the other hand, on the positive side, the attorneys have served the public interest well in presenting the testimony of local witnesses at I.C.C. field hearings in Pennsylvania.

3. F.P.C. Staff Counsel. At present, the F.P.C. assigns Staff counsel to its major proceedings. Such Staff counsel participates in the development of the record. This practice does not represent the prevailing situation at the I.C.C., where it is unusual for the I.C.C. to assign counsel for the development of a record. I believe some consideration might be given to these differences between the F.P.C. and the I.C.C. in establishing any office of Public Counsel for the F.P.C., to avoid duplication, while at the same time providing representation for various classes of consumers together with the right to seek judicial review.

4. Federal Control over State Proceedings. I am troubled by the substantial degree of proposed federal control over advocacy before State agency proceedings. The office within the Federal Energy Administration would be permitted to intervene

in any State case, on the motion of any party, and at the same time would be in charge of approving federal grants to the States so as to provide compensation for local attorneys to represent consumers or the public in the same proceedings; and if the State agencies did not comply with the federal requirements for consumer advocacy, the State's utilities, and indirectly the rate payer, would foot the bill for the public advocates.

I do not believe a federal official should determine when the consumer requires assistance in a State rate proceeding. See: section 207(b)(3). Further, I do not believe there should be a federal requirement that every local consumer or public interest spokesman must be funded for participation in every State rate proceeding.

It would seem preferable that the Congress should support a proposal to fund State efforts in creating offices of State Utility Counsel. These would operate within each State which desires such, and be controlled and staffed by personnel responsible to the local community. At the same time, it could be funded to the extent of perhaps 90% by the federal government to ensure that consumer representation is not starved out of existence, or allowed to become a sham should proper financial support not be forthcoming. We should not overlook that the many great advances in highway development were achieved by a similar formula which allows both the State and federal governments to work together.

This concludes my remarks. I will be glad to answer any questions you may have.

PANEL OF INDUSTRIAL CONSUMERS

STATEMENTS OF: ROBERT E. BURT, DAVID E. LEIBSON, ROY N.
LEIDNER, RICHARD B. POOL, AND CHARLES E. ROSS

TESTIMONY OF
ROBERT E. BURT

Director, Energy Department
California Manufacturers Association

BEFORE THE
HOUSE COMMERCE COMMITTEE
SUBCOMMITTEE ON ENERGY AND POWER
ON H.R. 12461,
ELECTRIC UTILITY RATE REFORM

April 9, 1976

INTRODUCTION

Thank you for the opportunity to take part in these hearings. I am Robert E. Burt, Director, Energy Department, California Manufacturers Association, an association open to any company which manufactures in California. We are here representing the interest of manufacturers as power consumers. This has been a major function of this Association ever since the end of World War II. We have taken part in every major California utility rate case and also some of the Federal Power Commission cases which affect California. Since this statement was prepared, the National Association of Manufacturers has reviewed it and concurs with the statements herein as representing the views of manufacturers generally, not just those located in California.

The first basic point we wish to make is that we strongly favor utility rates which are based upon the real cost of service. Our difficulty with that phrase as used in H.R. 12461 is that we see no relation between marginal cost pricing and pricing in the real world. The economic theory which dictates marginal cost pricing as creating ideally efficient utilization of economic resources has a fundamental flaw: one of its basic assumptions requires easy transfer of capital and other production necessities from one use to another. This cannot happen in the real world. The result: it is a rare situation where marginal cost prices actually

govern in free markets, especially those which are capital intensive, as is electric service.

Electricity is only one of a great many products for which the cost of capital plant has skyrocketed in recent years and for which the cost of plant is a major part of the total cost of the product. Steel is a similar product in this respect. If steel were priced at its marginal cost, it would sell for prices at least 20% higher than it does. A new plant never produces a significant part of the supply in any given year and, as a result, it is forced to meet the competition of the existing plants, all with lower capital costs. The same tendency works in reverse when the cost of new plant is going down. So, real-world competitive markets are almost never governed by marginal cost prices. We postulate that competitive markets are a well-demonstrated means of long-run efficient use of economic resources. Thus, marginal cost pricing is a theory with little relevance to real-world problems. To us, it seems here to have the function of simply providing a slight mask of respectability for severe discrimination against some customers (those "marginally priced") in favor of others (those not "marginally priced").

At this point, we would like to discuss the real costs of providing electric service. Electricity is not a unit product, like toothpaste, it is a service. Once my house is hooked up to a utility line, the laws of physics dictate that current will be taken from that line to serve any switch I turn on. The only exception to this situation

is where the utility (either accidentally or on purpose) cuts off current flow to the line. The cost of providing that service has three elements. First, it costs the utility money to have that line tied to your house, ready to serve, even if you never turn on a switch. The lines must be built and maintained, with emergency crews ready to quickly handle any damage. Meters must be installed and read, bills mailed, etc. These are usually called the customer cost and, for a typical utility, run from \$3 to \$5 per month for residential customers. They are considerably higher for industrial customers, but trivial in proportion to the current they take. The second class of costs is incurred when the customer is using current at the time when a major peak load is being imposed. Since the utility must meet its peak load or go (at least partly) out of business, these rare peak demands, usually only a few times a year, dictate the total generating plant which they must have on hand. To be safe, a utility must always have operating generating capacity at least 10% greater than its anticipated peak. So whatever load a customer is imposing during these major peaks creates a demand for generating plant. For that reason, this is called the demand cost. These peaks invariably occur when residential use is at its peak. In other words, residential users contribute

far more to the need for new plant than they do to the total demand for energy. The third element of cost is the one which many seem to think is the only element of cost: energy. This is the cost, mostly for fuel, of turning turbines to place current in the lines. This cost is nearly the same for all customers. Since less current is lost on the way to the industrial customer than to the residential customer (because the high voltage lines which serve him are more efficient) the energy cost of a kilowatt-hour given to an industrial customer averages about 90% of that for a typical residential customer. This represents only about 35% of the total cost of serving the typical residential customer. For large industrial customers, this cost represents as much as 65% of the total cost of delivering his electric service.

Honest men will differ as to the precise amounts of these costs in any system, with the greatest argument coming from how to divide costs which are incurred serving more than one of these areas at the same time. However, as long as the discussion centers upon actual costs incurred, the differences of opinion seldom amount to more than 5%. As H.R. 12461 is written, it would provide some residential customers with their electric service at a charge which would cover about 90% of the energy charges which were incurred in serving him and would recover none of the demand and customer costs which he imposes, costs which amount to almost

two-thirds of the typical cost of serving a residential customer.

These data are very familiar to us because we have just completed a series of rate case actions in California which impose lifeline and related concepts upon our utility rates. The cost concepts just discussed were not challenged by any party to the proceedings and our Public Utilities Commission specifically declined to make any finding that the lifeline rates they have just established for serving residential customers were compensatory. We draw from California's action two lessons for this Committee's consideration. First, there is no need for Federal legislation which would force these new rate-making concepts upon the states. The wave of the future frequently seems to hit the California coast first and we are confident that the happy thought of providing a subsidy for residential utility use will spread. Second, this seems to us to be an area of government in which the Federal system should be allowed to work. We are dealing in a great many unknowns and conflicting opinions. Let the states experiment in this terra incognita and display, as time goes by, the real benefits and costs of the many possible variations of these rate-making theories. Our obvious reason for this position is that we feel that calmer heads will prevail and that the need for a more rational system will be established and, at that time, we hope that Federal handcuffs will not have been placed upon us.

It has been argued that the Congress should, instead, impose these rate-making philosophies because, otherwise, the states which do impose them must face concern that they will lose industrial jobs to those states which do not. In passing, we have noted very little real concern in either New York or California about the loss of industrial jobs. Both bemoan their loss, but continue the policies which cause the losses. A far more important consideration is that the Congress does not have the power to impose these rate philosophies upon our foreign competitors. The U.S. must export manufactured goods to pay for the tremendous volumes of energy and raw materials which we must import. If our industry is not competitive, we will be unable to do it. The foreign holders of these resources must freely exchange them to us for our goods (directly or indirectly). If our goods are not competitively priced, we will have great difficulty in getting the quantities of theirs which we need. Any slight decline in our demand for imported energy will be more than made up for in loss of foreign exchange to pay for the remainder.

Equally vital, unless we are to abrogate numerous treaties, retreat to a Fortress America, and drastically drop our standard of living, we will also have to compete against foreign manufacturers in our domestic markets. As to a choice between the possibility of jobs moving from one

state to another and the possibility of jobs moving from the United States to other nations, I find little difficulty. Loss of domestic markets to imports would further complicate our problems of paying for imported energy and raw materials. The English, having this problem and refusing to face it, have, in 25 years, gone from having one of the highest standards of living in Europe to having the lowest in Northeast Europe.

STATEMENT OF
DAVID E. LEIBSON
VICE PRESIDENT & DIRECTOR OF MANUFACTURING AND ENGINEERING
CORNING GLASS WORKS
BEFORE THE
SUBCOMMITTEE ON ENERGY & POWER
COMMITTEE ON INTERSTATE & FOREIGN COMMERCE
ON H.R. 12461
APRIL 9, 1976

I am David E. Leibson, Vice President and Director of Manufacturing and Engineering for Corning Glass Works, the company I am here representing. Corning Glass Works, with headquarters in Corning, New York, is a technologically oriented company producing specialized products for science, industry, defense, and the home.

Corning employs approximately 35,000 people to operate 80 facilities worldwide. A little less than 2/3 of these operations are in the U.S. From the more than 300 different glasses Corning produces each year, it turns out 60,000 different products, serving a total of 50 distinct markets.

It is impossible to melt glass without significant amounts of energy. Thus, energy has become a major cost factor for the glass industry.

Corning's total annual energy consumption is 170 trillion BTU's. Our unit energy costs have more than doubled since 1972¹, and energy cost in 1976 is expected to exceed \$40 million. Thus, it is clear, Corning is vitally concerned with any legislation which will affect the availability and price of energy.

To us, energy conservation is a matter of survival; and we have been very successful in applying an effective energy conservation program companywide. However, conservation has obvious limits. While conservation certainly contributes to the overall efficiency of energy consumption, it does not expand energy supplies or offer a long-range solution to the energy shortage.

As I will explain, Corning Glass Works considers expansion of electric power sources, based on the use of coal and nuclear energy, as the key to energy self-sufficiency for the United States.

Factors Affecting Energy Usage

Looking to the future, we believe strongly that the demand for adequate energy at affordable cost will continue to increase. Numerous analyses have shown there is a close interrelationship between Gross National Product and energy consumption.² If our standard of living is to increase, so must energy consumption; and if energy consumption declines, so inevitably must the standard of living.

We have looked carefully at the factors which will shape the nation's energy economy in the future and have defined what we feel are some basic premises which will shape our national energy strategy.

- We will need more, not less, energy to maintain a full employment economy and sustain an appreciable rate of economic growth in the face of growing competition in world markets. A no-growth energy economy is both unrealistic and impractical.^{3/}
- Conservation will play a vital but limited role in balancing our future energy demands with the limited available supplies; but unless energy prices reflect true energy costs, we could continue to foolishly waste energy in many applications.^{4/}
- The nation's long-term interests are best served by a national policy which fosters development of an electrified economy based on our domestic nuclear and coal resources. The alternative, rapidly increasing reliance on insecure oil imports, will erode our position in foreign markets and undermine our national security.^{5/}
- Corning believes that both the Administration and Congress must inevitably recognize the wisdom of an electrified economy and adopt policies to speed its development.

We are so firmly convinced that this will be the ultimate course of action for the country that we are planning to make major capital-intensive conversions of our glass melting operations from natural gas to electric power as gas supplies dwindle and the prices for gas and electricity converge. Even under today's price levels with electricity priced 2 1/2 times higher than natural gas, electricity is competitive in a new electric furnace in which Corning has made a large research and development investment. This furnace, which is three times as efficient as a gas-fired furnace, is cool, quiet, and does not pollute the atmosphere.

However, we have 36 major melting units in operation and to tear out an existing furnace and replace it with a new all-electric melting system would cost approximately \$6 1/2 million. Clearly this is not economical under current price conditions. The cost of electric power can be no more than 1 1/2 times the cost of gas for us to economically justify this conversion. We anticipate this price ratio will be reached in the early 1980's. But if the true price relationship is distorted by the use of non-cost based pricing for electricity and, as a result, industrial electric energy prices are sustained at prices above their real cost, we will put off the conversions and continue to use oil, most of which must be imported. Based on our analysis of future energy availability and prices, we developed an energy strategy. It is:^{6/}

- Maintain flexibility to use fuels which are most readily available at the lowest cost. (Gas is preferred when most economical.)
- Install back-up capability to use oil (where technically feasible) when gas is not available.

- Use electricity for all new capacity.
- Improve the energy efficiency of existing melting units.
- Examine the economics of conversion to all electric furnaces at each major repair. Consider conversion when return on investment exceeds 10%.

Our corporate decisions will be duplicated by many industrial users. While we and most industrial energy consumers would like to use natural gas as the incremental energy, the harsh reality is that gas will not be available and the replacement energy will be oil. Unless some action is taken to change the current course and to encourage the use of electricity by industry, this nation's imports of oil will reach the level of 13.5 million barrels of oil per day by 1985.¹⁷ To replace that amount of energy with equivalent electric energy would require new generating facilities costing an estimated \$190 billion.¹⁸ Once this capacity comes on stream, it would replace oil costing more than \$65 billion¹⁹ per year; and construction and operation of these facilities would produce more than one million jobs in the United States.

Corning's Position on H.R. 12461

H.R. 12461 proposes extensive reforms in electric rate-making techniques. We believe the stated purpose of the bill, to minimize the construction of new electric facilities¹⁰⁷, will not serve the nation's best interests over the long term. While the legislation might cause some shift away from peak loads for some small portions of the total consumption, it seems more likely it will also slow conversion of the nation's industrial energy users to an electrified economy. We feel this switch to electricity is the only way in which the United States can effectively utilize its own coal and nuclear fuel resources and become independent of imported oil.

It is our feeling that no federal legislation concerning electric rate reform should be enacted now. Most, if not all, of the proposed reforms could be accomplished by state regulators under existing laws if they feel the reforms would serve the interests of the people of their states. But even if there is something to be gained from imposing federal guidelines in the area of electric rate structures, this action is premature. Several studies which will prove the validity or invalidity of the economic assumptions used to support the need for this proposal are currently being conducted by both the FEA and the Electric Power Research Institute.¹¹⁷

We vigorously support cost-based pricing for electric utility service. As businessmen we must carefully determine all of the costs of producing our products. Electric utilities should be given the same right to base the cost of their product on the fully allocated cost of serving each customer class. Singling out certain customer classes for special non-cost based rates, and thereby increasing rates to the remaining customers, will send the wrong economic signals to the businessman who may then be led to make poor investment decisions.

We feel every effort should be made to assist the private utility sector in raising the capital needed to build new facilities required to maintain a reliable supply. If the utilities are precluded from recovering all of their fuel cost or cannot include all construction work in progress in their rate base, we believe their financial stability will be seriously undermined and their ability to attract capital at reasonable rates reduced. Over the long run, this could lead to higher interest costs and higher costs to consumers.

Conclusion

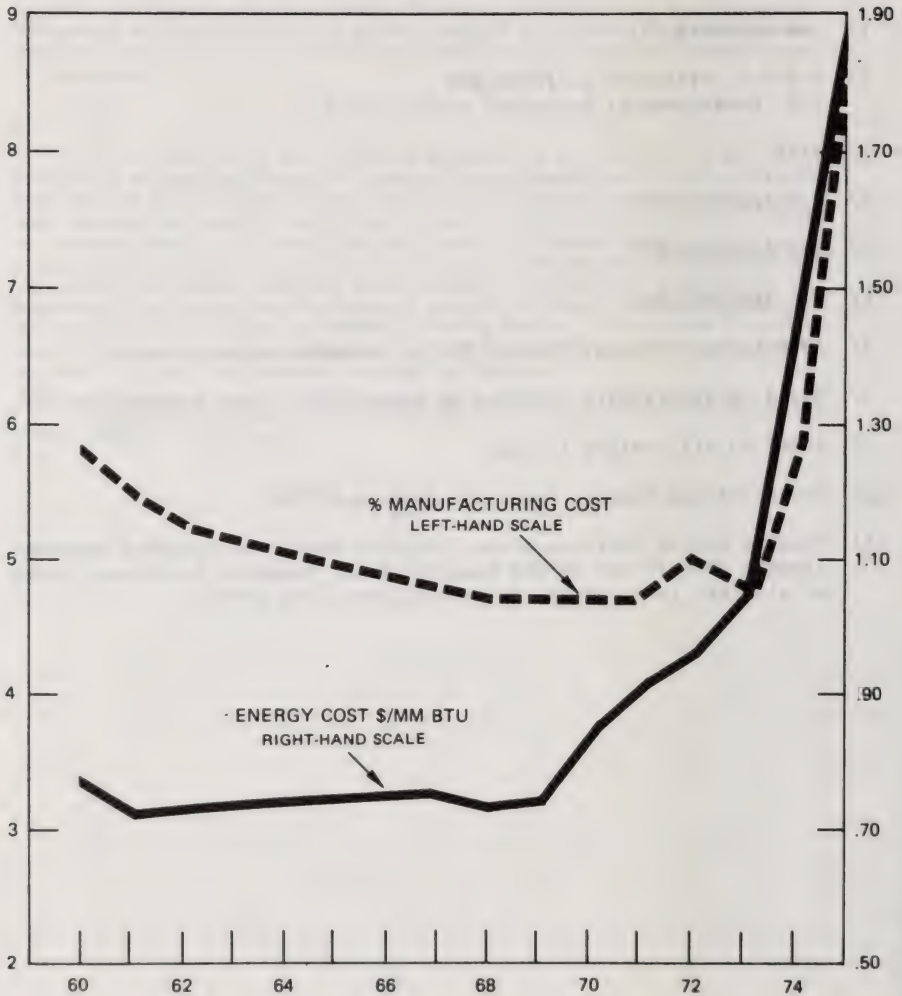
In conclusion, I would like to reemphasize my view that we must do everything we can to develop our domestic energy resources. This legislation will not, we feel, assist in this effort. This proposal emphasizes electric rate reforms that would tend to discourage industrial electrification, which we strongly support. In addition, if electric utilities cannot recover all costs, such as fuel costs or costs related to construction work in progress, we believe that their financial condition will significantly limit their building program to support industrial electrification. Studies currently underway may help to show us the way to solve some of our electric rate problems, which we hope can be acted upon at the state level. For these reasons, we feel this legislation should not now be enacted.

Thank you for the opportunity to present the position of Corning Glass Works on this vital issue.

FOOTNOTES

- 1/ See Appendix #1.
- 2/ U.S.G.S. Professional Paper 820
U.S. Department of Interior, p.10, fig. 2.
- 3/ IBID
- 4/ See Appendix #2.
- 5/ See Appendix #3.
- 6/ See Appendix #4.
- 7/ 1976 Energy Outlook, Federal Energy Administration, p.xxvii.
- 8/ Based on electricity produced by generating plants costing \$400/KW.
- 9/ Based on oil costing \$12/bl.
- 10/ Congressional Record, March 11, 1976, p.E1192.
- 11/ Federal Energy Administration, Electric Rate Demonstration Program (funded FY 1975 and 1976); Electric Power Research Institute, study on electric rate design (to be concluded late 1976).

CORNING GLASS WORKS ENERGY COST



CORNING GLASS WORKS ENERGY EFFICIENCY SUMMARY
FOR 15 MAJOR MELTING PLANTS

	<u>1973</u>	<u>1974</u>	<u>1975</u>
Expected BTU's X (10^{12})	14.415	14.001	12.756
Actual BTU's X (10^{12})	15.088	14.380	12.308
Change from 1972	(4.8%)	(2.7%)	3.5%

8.3 percentage points change from 1973 to 1975

Goal for improvement: 10% by 1980

ECONOMICS OF U.S.A. AS AN ENTERPRISE
SWITCHING OIL TO ELECTRICITY....

	<u>COAL</u>	<u>NUCLEAR</u>
CAPITAL	\$ 400KW	\$ 600KW
INTEREST COST @10%	.005	.007
DIRECT PRODUCTION COST	.007	.002
TOTAL	.012	.009
EFFICIENCY ADJUSTED	.017	.013
OIL EQUIVALENT COST	.031	.031
DIFFERENCE/KW	.014	.018
PAYBACK	3 yr.-3 mo.	3 yr.-9 mo.
IRR	21%	16%

ASSUMPTIONS

EFFICIENCY	OIL 30%	ELECTRICITY 70%
OIL COST (FOREIGN)	\$.38/GAL.	\$.031/KW
COAL COST	\$.75/MM BTU, DELIVERED	
NO TAX		
NO PROFIT		

ENERGY STRATEGY

- . MAINTAIN FLEXIBILITY TO USE FUELS WHICH ARE MOST READILY AVAILABLE AT THE LOWEST COST. (GAS IS PREFERRED WHEN IT IS THE MOST ECONOMICAL.)
- . INSTALL BACKUP CAPABILITY TO USE OIL WHEN GAS IS NOT AVAILABLE TO EXTENT OF TECHNICAL CAPABILITY.
- . USE ELECTRIC MELTERS FOR ALL NEW CAPACITY.
- . IMPROVE THE ENERGY EFFICIENCY OF EXISTING MELTING UNITS.
- . EXAMINE THE ECONOMICS OF CONVERSION TO ALL ELECTRIC FURNACES AT EACH MAJOR REPAIR. CONSIDER CONVERSION WHEN RETURN ON INVESTMENT EXCEEDS 10%.

TESTIMONY

of

American Iron and Steel Institute

on H. R. 12461

"ELECTRIC UTILITY RATE REFORM AND REGULATORY IMPROVEMENT ACT"

before the

Subcommittee on Energy and Power

of the

Committee on Interstate and Foreign Commerce
U. S. House of Representatives

April 9, 1976

Mr. Chairman and members of the Subcommittee, Good Morning. I am Roy Leidner, Manager, Power and Utilities Practice and Development, Steel Operations Department, Bethlehem Steel Corporation. I am a member of the Committee on Energy of the American Iron and Steel Institute (AISI), a trade association representing the domestic iron and steel industry and its related activities, an employer of 750,000 men and women -- an industry that in 1974 paid out ten billion dollars in wages and salaries.

I welcome the opportunity to acquaint you with some of the problems which my company and the steel industry, in general, would have as a result of the passage of the proposed House Bill H.R. 12461. While the proposed legislation deals with rate reform, power supply, and regulatory authority, I only intend to acquaint you with those problems that would affect the industrial consuming sector of the economy.

The steel industry of the United States recognizes that it is a major energy consumer having used for a number of years 5 to 6 percent of all the energy consumed in the United States or between 15 and 20 percent of the energy consumed by industry. The steel industry is unique among energy users in the United States because it is the only major industrial consumer which derives the majority of its energy from coal. In 1975, coal supplied 68 percent of the industry's energy requirements; natural gas, 19 percent; petroleum products, 9 percent; and purchased electricity, 4 percent. This 4 percent, incidentally, is the largest block of power purchased by any

consuming industry.

The steel industry is not a homogeneous industry, but rather it is a grouping of many firms that have different kinds of facilities and processes, some proprietary, that produce a wide variety of steel products. Elaborating on this statement, it must be recognized that the steel industry includes both fully integrated and non-integrated companies. Fully integrated companies have plants with blast furnaces and coke ovens. This is a significant point because most of the coal used by the steel industry is consumed in the coke oven-blast furnace complex for the smelting of iron ore to produce molten pig iron. Both the blast furnaces and coke ovens produce large quantities of useful coal-based by-product fuels which are an important part of the steel industry energy supply. Non-integrated companies start their processing with a quasi semi-finished material, namely steel scrap, which effectively avoids many of the large energy consuming processes. Since the non-integrated companies do not have molten pig iron from blast furnaces or the by-product fuels from blast furnaces and coke ovens, they depend on electricity to melt the scrap. However, even integrated companies are highly dependent on electricity since the ultra modern finishing facilities require vast quantities of power.

Turning to the matters of electric utility rate reform and regulatory improvement, the desirability of national standards in these areas is subject to serious doubt. Electric utilities in the various parts of the country frequently find

themselves in unique local circumstances. For example, they face widely varying situations with respect to resource and materials costs, including fuel costs; the fuel mix which they consume for the generation of electricity; individual operating characteristics; and individual load characteristics. The American Iron and Steel Institute believes that the concept of national standards for electric utility rates and regulation ignores these facts and is inconsistent with the nature of the electric utility industry. The Institute further believes that the local utility commissions are the appropriate repository of regulatory power with respect to electric utilities.

Each consumer of power has a definite service requirement, and depending upon the nature and extent of that requirement, is charged on the basis of the cost of rendering the service required by him. In other words, the customer establishes his needs; the utility charges on the basis of the costs of satisfying those needs. Thus the customer in part determines what he will pay for power, depending upon the service required. This is the accepted and typical pricing philosophy applied to the sale of all services. In utility rate making this pricing philosophy is known as the "cost-of-service" concept. It has been applied for many years. Such "cost-of-service" rate-making performs several important functions. First, it serves the traditional function of limiting monopolistic pricing practices. Second, it serves the function of providing the predictable basis for electric utility revenues which is crucial for utility planning and financing, thus contributing

to the capital-attracting ability and overall financial stability of the electric utilities. Lastly, it serves to transmit the correct price "signals" to electric energy consumers, encouraging efficient utilization of electric energy resources by communicating to consumers the relative costs to society of their consumption decisions. The recognition by H.R. 12461 of cost of service principles as the appropriate basis for electric utility rate-making, thus, is a proper position.

Many are now challenging the historical cost-of-service concept as being inappropriate, old fashioned, undesirable, and are clamoring for change. We are not opposed to change, provided that it is a change for the better. Abandoning or departing significantly from the cost-of-service pricing is a change for the worse and could cause chaotic conditions within the country. All consumers need to be able to predict with some assurance at least the future short-term price of electricity, particularly commercial and industrial consumers. The latter invest millions of dollars and employ thousands of people in plants throughout the nation, such plants being specifically located to manufacture certain products, thus minimizing production and distribution costs and so render the public products at minimum prices. Power prices are one of the economic considerations in plant siting. As long as power pricing is cost related, industry can make assessments of its future cost. Any other philosophy of pricing is arbitrary and unpredictable. Industry cannot afford to gamble millions of dollars in facilities when one significant facet of its costs is indeterminate.

For example, the non-integrated mills in the steel industry are normally 40% dependant on electric power for their energy needs. A major increase in these power costs can change what is now a profitable operation into one which cannot continue to sustain itself. The cost-of-service concept must be preserved in the interest of our economy and national well-being.

In Section 101, the "Findings" which form the basis for the provisions to be set forth by this legislation include a few well known and accurate facts as stated in paragraphs 1, 2, 7, 8, and 9. Unfortunately, other of the "Findings" which form the very foundation for this bill do not share the same accuracy. Specifically, it has been shown repeatedly by cost-of-service studies performed by most competent experts in utility rate design that virtually all ratemaking practices result in fair and equitable distribution of the costs of generating and transmitting electricity among different classes of consumers. The following premise that some classes of consumers therefore pay less than the full cost of the service they receive also lacks accuracy.

The large industrial consumers, for whom the implication is that the availability of "less than cost-of-service" power encourages "excessive" and "wasteful" use of electrical energy, are very different than small (residential) consumers. Electrical energy is a cost item in manufacturing a product just as are raw materials, labor, capital, etc. As such, energy is subject to the same intensive management as the other cost items. An industrial plant manager would no sooner waste energy

than he would any other cost item needed to operate his facility, regardless of the price.

"Finding" Section 101 (10) deals with competition among electric utilities. Three-quarters of a century of utility regulation has shown that the public interest is best served when utility service is provided by a regulated monopoly. In order for electric utilities to compete for wholesale and industrial sales, redundant generating and transmission capacity would be necessary. This would create excessive costs for all classes of customers and is in conflict with "Finding" of Section 101 (7).

If these points are considered in proper perspective, H.R. 12461 could be greatly simplified and would not need to be so far reaching.

With this as a preamble, I would like to continue on several specifics of the proposed legislation.

In Section 203 (a) (3), Rate Regulation, the bill makes a conspicuous divergence from the cost-of-service principle by providing for a "subsistence quantity" of electric energy for residential electric consumers. In addition, the provision for "subsistence quantities" of electrical energy at prices below cost of service contains serious fallacies:

1. It gives subsidies to residential consumers regardless of whether or not paying for their non-discretionary use of electrical service is really a hardship. There is no reason to provide subsidies for consumers who do not need them.

2. It assumes that families in need of subsidies can be identified by their small consumption of kilowatt-hours. Even the strongest supporters of this type of provision must admit that small consumers are not necessarily poor.
3. A vast segment of the poor people live in multi-family rented dwelling units, and would not benefit from such a measure. Their electric service costs are reflected in the rent they pay.
4. A "subsistence quantity" of electric energy as described in Section 203 (a) (3) (B) for "domestic lighting and food refrigeration" only could be as little as 150 kilowatt-hours per month. The difference between the residential rate and the "subsistence quantity" rate would then be trivial, the net benefit approximating \$3 per month.
5. Section 203(a) (3) (C) provides for state agencies to increase the kilowatt-hours of the "subsistence quantity" from lighting and food refrigeration only, to include "additional domestic end uses." These additional domestic end uses would most likely be cooking, water heating, and space heating. Preferential rates to residential electric energy consumers for these purposes would be unfair and discriminatory to families which use fuel oil, propane, coal, or gas for any of these same purposes. These other fuels must be purchased at fair market prices.

6. Section 203 is an attempt to accomplish social welfare goals by altering utility rate structures. This is contrary to the long-standing policy that social welfare is a public responsibility and the costs for such social aid programs are to be funded from the public treasury.

Section 207 provides for an Office of Electric Utility Ratemaking Assistance. Utility rates are designed by persons and companies who are expert in the field of rate design. They are available for hire to utility companies, regulatory agencies, or any other interested parties at such times as they are needed. It would be more preferable to have this task performed by a currently viable free enterprise system than by expending tax-payers' dollars to create a full time federal staff to do the same thing. Section 207 should be deleted.

Section 310, on Studies of Competition, in addition to being counterproductive to the public interest as described in the above comment on the "Finding" in Section 101(10) dealing with competition among electric utilities, authorizes the study of many items which are either under constant evaluation presently, or have otherwise been demonstrated to be unfeasible. Also, in Section 310(a)(3), the study authorizes examination of the feasibility of separately owned and operated facilities for natural gas distribution. The subject of natural gas distribution is completely irrelevant to electric utility rate reform and regulatory improvement. Section 310 should

be deleted.

In summary, it is the position of the American Iron and Steel Institute that H.R. 12461 would not accomplish the electric utility rate reform intended. Any revisions in rate design required should be achieved through the application of cost-of-service principles which now are generally in effect throughout the nation.

I thank you for this opportunity to present our views on this most important subject.

Aluminum Association Testimony on
Utility Rate Reform Proposals
by Richard B. Pool
Corporate Energy Coordinator
Kaiser Aluminum & Chemical Corporation
before the Subcommittee on Energy and Power
of the House Committee on Interstate and Foreign Commerce
April 9, 1976

My name is Richard B. Pool. I am corporate energy coordinator for Kaiser Aluminum & Chemical Corporation. However, I am here, today, to speak on behalf of the aluminum industry as chairman of the Aluminum Association's Task Group on Electric Rate Position.

The Aluminum Association has 77 members representing all of the domestic primary aluminum ingot production and 85 percent of the shipments of U.S. semifabricated (mill) products. The aluminum industry is one of the basic U.S. industries supporting the industrial economy of our country. Its members manufacture aluminum products in 43 states and purchase electric power from the majority of utility companies in the country.

The United States is growing increasingly vulnerable to energy constraints. We face a potential energy crisis greater than that experienced two years ago. Natural gas and fuel oil supplies to industry will be severely constrained by 1990, according to forecasts of our economists. In both the short and long term, electrical power can be the major answer to our energy dilemma.

Certainly, the aluminum industry depends on electricity in smelting, where no alternative energy source can be used.

Today, electricity is the most expensive form of energy. Yet, with the inflation of the past two years, the electric utility industry has seen its earnings seriously eroded. And it has experienced difficulty, as well, in acquiring capital at rates it can afford to invest in needed expansion.

There's no doubt the electric utility industry faces problems in financing its future growth. We support the need for utilities to build additional capacity. We do not agree with some methods of changing rate structures that are being proposed.

LEGISLATIVE PROPOSALS

Legislative proposals that are being introduced to the Congress deal, primarily, with revisions in utility rate structures that will be harmful to the country's economy. Whether by mandate, or "strong encouragement" to individual state regulatory agencies, they share common aims:

- 1) to minimize energy consumption as an end in itself;
- 2) to limit growth of the electric utility industry;
- 3) to provide residential consumers with a "subsistence quantity" of electricity at a subsidized rate;
- 4) to prohibit or place procedural burdens on declining block rates; and
- 5) to require peak load pricing of electricity.

The first objective -- to minimize energy consumption as an end in itself -- is not a sound national goal. Making the best use of the country's energy resources is vitally important

and that can be done, in large part, through conservation; not by attempting to de-energize the United States. The goal must be to strike a balance between supplying the nation's needs and protecting the environment.

Number two, to limit the growth of the electric utility industry, we believe is unrealistic and would seriously threaten our nation's well-being and standard of living. While it is certainly proper to discourage excessive and wasteful use of electricity, reasonable growth should be encouraged.

The third common objective is to provide residential consumers with a "subsistence quantity" of electricity which would permit the purchase of some basic quantity of service at less than cost. "Lifeline rates," as this concept is commonly called, assumes there is a direct correlation between electrical consumption and income level. However, it is evident that low income consumers are not necessarily minimal users of electric energy. There is no doubt that people on fixed incomes, the underprivileged and other socially handicapped citizens have difficulty in dealing with rising energy bills. But, they also have difficulty in dealing with rising costs of food, shelter, transportation and clothing. The fact is, this is an income or social problem, not a utility rate problem.

Discussion of the fourth and fifth objectives, namely, to prohibit or place procedural burdens on declining block rates and to require peak load pricing of electricity follows.

PRICING PHILOSOPHIES AND INDUSTRIAL IMPACT

Electricity is a universally needed service. The essential reason monopolistic power companies were created to provide that service was because the fixed cost of the physical plant to generate, transmit and distribute power is extremely high. And a redundancy of facilities in any geographic area would greatly increase the cost of the service. So a legalized monopoly exists to serve a diverse body of customers, each with a definite service requirement and each charged according to cost incurred in meeting that requirement.

The only impartial and objective way to determine how to apportion a utility's required revenues, from among its various kinds of customers, is to determine service classifications and service rates in order that the utility can recover the present cost to service each customer. Added to that must be return on investment for the utility.

This is the cost of service concept which evolved in our country's regulatory practices decades ago. It is based on the soundest principles of economics.

As long as power pricing is cost related, industry -- and other consumers too -- can assess at least short-term, future energy costs and feel some assurance they will be equitable. Any departure from this pricing philosophy becomes arbitrary and unpredictable.

The aluminum industry's electricity requirements enable utilities to build very efficient capacity to meet residential and commercial demands in addition to the industry's own requirements. A utility's "load factor" developed by the aluminum industry is about double that for residential use. That enables a utility to utilize a greater portion of its installed capacity constantly.

Delivering a kilowatt hour of electricity to industrial customers costs a utility less in equipment and manpower than serving residential users. A lower unit cost of service rate to industrial customers thus has been deemed appropriate and cost justified for decades.

Utility customers should not be deprived of declining block rate pricing which recognizes that a high-load factor customer enables a utility to lower its overall unit costs. Revenue allocations and rate structures should recognize the differences in costs incurred in serving various classes and apply to all customers. Elimination of the declining block rate which is based on that principle denies to the large volume user the lower price to which he is entitled based on actual costs to serve that customer, and constitutes a subsidy to other customers.

Industrial customers buy large quantities of power on a year-round basis and provide a consistent, sizable base load to a

utility. Because of that consistency, industry does not increase its demand during peak load periods like a residential customer. Yet with proposed legislation, industry could be severely penalized for using energy at those times of a day or a year that are designated "peak" periods, unless steady users are given appropriate credit for off-peak usage.

It should be pointed out further that application of peak load rates would effect little, if any, reduction in energy consumption by the aluminum industry. Many critical industrial processes cannot be interrupted or halted on a daily or seasonal basis to conserve electricity. And industry today is conserving all forms of energy, with supplies short and prices soaring. Peak load pricing cannot be relied on to reduce industrial electrical power consumption further.

The aluminum industry believes that any pricing that deviates from traditional cost of service, in all likelihood, will result in:

- + more industrial self-generation of power from small units that are usually less energy efficient;
- + increases in the prices of industrial products to customers and ultimately, of course, to all consumers;
- + competitive disadvantages with foreign products; and
- + costly monitoring and billing services added on to utilities' operating costs.

We should recognize, in the final analysis, that a major purpose of the proposed federal legislation is to raise the price of electricity in a most roundabout way . . . so that the average residential consumer will believe he is feeling no pain.

Higher utility rates for industry, inevitably, will result in higher priced industrial products and higher priced consumer products. Some members of Congress apparently find that more palatable than encouraging direct utility rate increases for all classes of customers based on costs to serve them.

It would make far more sense for Congress to encourage the state utility regulatory bodies to adhere to the cost-based utility rate pricing in use today. Care must be exercised that distortions in power pricing do not occur that will stifle our ability to maintain the U. S. standard of living.

TESTIMONY IN SUPPORT OF H.R. 12608 BEFORE THE HOUSE INTERSTATE AND FOREIGN COMMERCE COMMITTEE BY CHARLES ROSS, GENERAL MANAGER, KANSAS ELECTRIC COOPERATIVES, INC., APRIL 9, 1976

Mr. Chairman and members of the committee, my name is Charles Ross. I reside in Topeka, Kansas, and am General Manager of the Kansas Electric Cooperatives, Inc., the statewide association of all thirty-seven rural electric cooperatives (REC's) in Kansas. Collectively Kansas REC's have the responsibility of serving central station electricity to more than 120,000 consumer members encompassing approximately three-fourths of the total land mass of our state. I appear before this committee in support of H.R. 12608. Provisions contained in this proposed legislation would meaningfully benefit the REC's that I represent, as well as all electric consumers in the state of Kansas.

If we understand provisions of H.R. 12608 correctly, Section 202 (a) of the Federal Power Act would be amended by inserting the wording "maximum competitive opportunities for the purchase and sale of electric energy at wholesale" and, by striking the word "voluntary". Through this proposed change, the Federal Power Commission (FPC) would be mandated to insure that all electric utilities make the best use of their respective generation and transmission facilities through interconnections, joint planning, and coordination with other electric suppliers within their respective geographic areas.

I specifically call to the attention of the committee a copy of a letter attached to this testimony dated December 5, 1975, from Mr. Donald L. Martin, Regional Engineer, Federal Power Commission, Fort Worth, Texas. Mr. Martin's letter was mailed to representatives of all electric suppliers in FPC Power Supply Areas 29 and 34 which

essentially geographically represents the states of Kansas and Missouri. The first paragraph of Mr. Martin's letter states, "Enclosed is a copy of the final report entitled 'Study of Full Interconnection and Coordination of Electric Systems Located In FPC Power Supply Areas 29 and 34' which was prepared by the FPC Fort Worth Regional Office. We highly recommend early consideration of the results of this study. This study shows the large savings that can result from area wide participation of all electric systems in pool planned generation and transmission facilities and coordinated operation through central dispatch control. The report indicates the steps that need to be taken to implement full coordination. The major privately-owned electric utility systems are encouraged to take the lead in this endeavor although the cooperation of all systems is needed."

A complete copy of the FPC report was provided to all electric entities in the two state area, along with Mr. Martin's letter. A copy of this complete study and report has been provided to your committee chairman.

This report and study by the Regional Office of the FPC specifically outlines the various advantages of interconnections, use of transmission facilities, coordination between electric utilities, joint planning, and all of the other ramifications which make for the most effective and efficient use of all electric facilities in a geographic area to best serve the public interest. Unfortunately, as previously noted in Mr. Martin's letter, the FPC currently has no power to require electric utilities to implement any provisions of this FPC study which clearly recommends implementation of proposals which are in the public interest. The proposed amendments contained in H.R. 12608 in Section 202 (a) would allow the FPC to require

implementation of these procedures by electric utility systems in FPC Power Supply Areas 29 and 34.

Amendments in Section 202 (b) of the Federal Power Act, as proposed in H.R. 12608, would mandate efficient use of electric power supply facilities and would assure competition between wholesale electric suppliers within specific geographic areas. Provisions in H. R. 12608 would allow the FPC to require a variety of arrangements between electric utilities which would be in the public interest including the opening up of transmission "bottlenecks" which now continually plague and stifle smaller utilities of the industry.

As an example, in Kansas through the Kansas Electric Cooperatives, Inc. (KEC), our REC's have been offered joint ownership participation in a large nuclear plant being planned by two investor owned electric utilities. KEC wants to participate in this joint ownership arrangement, but to do so effectively must have the opportunity to utilize its share of the electric energy from this plant to the best advantage of its member REC's. Such rights include the possibilities of KEC obtaining other power resources outside of this particular investor owned electric utility's service area, such as peaking power to meet peak load demands of its members. KEC has a commitment for such peaking power from another power supplier, but because one of the investor owned utilities involved in the nuclear project refuses to allow KEC to move this outside resource over its bulk transmission lines, KEC is being stifled from utilizing this peaking power resource to supplement the bulk power it would own from the nuclear plant. In effect, KEC's viable participation in the nuclear plant is being curtailed. Please be aware KEC is not asking for a "free ride" either. KEC is willing to pay the investor owned electric utility a fair price under FPC regulation for this transmission service which is needed to be competitive in the wholesale power market.

As a result of this dilemma KEC is now, and has been for more than one year, involved with the Nuclear Regulatory Commission and this one investor owned electric utility in Kansas in antitrust litigation which is extremely costly for all involved, as well as unnecessarily time-consuming. The Regional Office of the Federal Power Commission has been advised of this situation by KEC, but has no authority to mandate electric utilities under its jurisdiction to provide such services which are in the public interest.

I have here described only one example relating to transmission "bottlenecks" for the movement of bulk power supply in Kansas. There are several other graphic examples of this same situation which we can detail, all of which prevent efficient uses of bulk power resources in the public interest at the present time.

Amendments contained in Section 202 (c) of H.R. 12608 would provide the FPC with a statutory procedure for determining whether electric companies subject to its jurisdiction would be able to meet the demands of wholesale customers and provide for means to alleviate power shortages, including fair curtailment of retail customers.

Most REC's in Kansas purchase all of their wholesale power requirements from one of the six investor owned electric utilities in the state. Currently there are two wholesale power rate increases filed by two of these investor owned electric utilities which affect several of our Kansas REC's, that are pending before the FPC. One of these wholesale power rate cases includes language which would allow restrictions upon only 10 days notice, of bulk power supply at any specific delivery point by the investor owned electric utility. This threat certainly affects the consumer members of the REC's involved. Additionally, no provision is made for fair curtailment of retail customers by the FPC. Thus, in the situation I have just described, it would be very possible for the investor owned company

to restrict wholesale power delivery to one or more of our REC's at a given delivery point which would directly affect the consumer members of that REC served from that delivery point, but would have no like curtailment restrictions for customers served at retail by the investor owned electric utility. Therefore, we firmly believe the FPC should have authority to provide for fair curtailment of all retail customers on a fair and equitable basis. Provisions in Section 202 (c) of H.R. 12608 speak directly to this matter.

Amendments offered in H.R. 12608 in Section 205 (e) stipulates that no wholesale power rate or charge or any portion thereof sought to be increased by a public utility could become effective until hearings were completed and a final order issued by the FPC upholding the lawfulness of all or a portion of any such increase. We think this proposal is only fair and certainly in the best interest of the consuming public.

As an example, in both of the wholesale power rate cases I previously alluded to in this testimony now affecting Kansas REC's, the increased rates proposed by the affected investor owned electric utilities for wholesale power have been allowed to be placed into effect by the FPC. These cases are not yet settled. Hearing dates for arguments involved relative to the cases before the FPC are not even scheduled until mid-summer and the early fall of 1976. In the meantime, the affected REC's are now paying these increased wholesale rates to the investor owned electric utilities. This present practice allowed by the FPC not only creates a very real hardship for affected REC's, but creates additional chaos and confusion among consumers.

All Kansas REC's retail rates are under the jurisdiction of the Kansas Corporation Commission (KCC). Some of our Kansas REC's under terms and conditions approved by the KCC can "pass on" to their

consumers on a monthly basis these increased wholesale power costs from their respective investor owned electric utility bulk power supplier. Other Kansas REC's, however, have not applied such provisions and must rely on the approval of KCC to increase their retail rates before any portion of the increased wholesale power costs can be included in their retail electric bills to their respective consumer members. Thus, confusion reigns. Some REC's consequently operate in the "red" for several months while such wholesale power rate cases remain unsettled, while other Kansas REC's pass on the increased cost of power, but with the stipulation that refunds may necessarily have to be made to their consumer members upon final settlement of the wholesale power rate case. All consumers are already confused related to the fuel and/or power cost adjustments which appear on their electric bills. The practice of allowing wholesale power rate increases to take effect prior to final settlement only adds to this confusion for the general public. We believe the practice should be stopped and that final settlement of all such wholesale power rate cases should be settled prior to allowing any portion of such increases to become effective. Provisions in H.R. 12608 in Section 205 (e) speak effectively to this matter.

New Section 205 (f) of the proposal under consideration would add a new section to the Federal Power Act specifically authorizing the FPC to deal with anti-competitive practices in their infancy. I have already presented examples currently being fostered by investor owned electric utilities in Kansas to effectively throttle viable competition from any other electric utility as a result of transmission rights "bottlenecks." Additionally, in this testimony we have called to your attention that the FPC does not now enforce matters related to competition between two or more electric utilities. As we understand

the new Section 205 (f) contained in H.R. 12608, the FPC would have the authority to implement pro-competition between electric utilities within a specific geographic area. We firmly believe the FPC should have such authority and should exercise implementation of same as being in the overall public interest.

We favor a new Section 205 (g) as proposed in this bill which provides that the FPC could not allow "construction work in progress" (CWIP) to be included in rate bases for rate making purposes in wholesale power rate cases. The FPC has not to date allowed CWIP to be included for such rate making purposes, however, the FPC has held hearings related to this matter and may be on the verge of changing its procedure. If CWIP is allowed to be made a part of the rate base for rate making purposes, all entities which purchase wholesale power will be required to pay for facilities in their wholesale power bill that are not being "used or are useful" at the time for the general public. In Kansas the KCC does not allow CWIP to be included as a part of the retail rate base for rate making purposes. Therefore, Kansas REC's have no way at the present time to pass on the CWIP cost which may be included in their wholesale power rate to their ultimate consumers.

We do not believe CWIP should be included in rate bases. To do so entirely removes any strong incentive for any electric utility to regulate costs associated with such construction projects in an attempt to hold such costs to a minimum. Further, if CWIP is allowed to be included in rate bases, the incentive to move any construction projects along to early completion will be negated. Also, should CWIP be allowed in the base rate for wholesale power rate making purposes and should state regulatory bodies allow same to be passed on to the consuming public in retail rates, millions of dollars will be collected in electric bills from consumers who, in fact, never are around to

PANEL OF CONSUMER ADVOCATES

STATEMENTS OF: ROBERT V. GRAHN, FRED M. DUSENBURY,
MARVIN RESNIKOFF, PH. D., AND BRUCE A. FREDERICKSON

PANEL OF CONSUMER ADVOCATES

STATEMENTS OF: ROBERT V. GRAHN, FRED M. DUSENBURY,
MARVIN RESNIKOFF, PH. D., AND BRUCE A. FREDERICKSON

Statement by Robert V. Grahn, Chairman, AC/DC Committee (representing all-electric customers in the District of Columbia), at House Subcommittee on Energy and Power hearing on H.R. 12461

April 9, 1976

My name is Robert Grahn and I am a resident of the District of Columbia. I am chairman of the AC/DC Committee, an organization formed in 1974 to represent the interests of all-electric customers in the District of Columbia.

Scope

My testimony is addressed primarily to the provisions of Title II of the proposed bill, and in particular to Section 203(a), paragraph 3, which deals with the "subsistence quantity" concept of rate design. In addition, I have four brief additional comments to offer on other specific aspects of the proposed bill.

"Subsistence quantity" concept

The all-electric customer's consumption of electricity is far above the subsistence level because he must use electricity for space heating, water heating and cooking -- functions which are normally performed with gas, or oil and gas, in most homes. He would nevertheless support the "subsistence quantity" or "lifeline" rate concept as expressed in the above-mentioned Section of the proposed bill -- but with a caveat or two. He would point out that well-intended implementation of the concept might well lead to some unintended results such as subsidization of well-to-do customers and potential distortion of the rate-vs-cost of service relationship in residential rate schedules.

For example, here in the District of Columbia, basic rates for customers who use 400 kwh per month and less have not been increased since August 1972.

The result?

1. About two-thirds of Pepco's residential customers (in D.C.) have received no increase whatsoever in their basic electric rates in nearly four years.
2. Another 22% have received no increase whatsoever during the seven winter months, and have received token increases during the summer months amounting to less than 4%.
3. Nine out of ten of Pepco's D.C. residential customers have thus been favored with a virtual freeze in their basic electric rates during a period when the cost of living has increased by 33%.

Let me re-emphasize that I am talking about basic rates. In addition to their basic rates, all of Pepco's customers have paid fuel adjustment charges -- for a while there they were universally and aptly referred to as "skyrocketing" fuel adjustment charges -- during the period in question.

What this means is that although all of Pepco's residential customers in the District have contributed their fair share toward Pepco's increased fuel costs, most of them -- about 90% of them -- have contributed virtually nothing toward the increasing cost of Pepco's labor, material, services, interest rates and so forth during a period of nearly four years.

To put it another way, what we now have in the District is a residential rate schedule which subsidizes not only those customers who are, in fact, hard pressed to pay their electric bills, but also subsidizes the great majority of customers who are presumably well able to pay their bills.

Fortunately, there is a solution to this problem in the form of an innovative rate schedule which we have devised. For those who may be interested in the details, I am submitting it as an attachment to this statement.

The point I wish to make here is that the "subsistence quantity" or "lifeline" concept of ratemaking is not an unmitigated blessing. It must be implemented and administered with extreme care lest it generate more inequities than it sets out to eliminate.

Additional comments

I would judge the overall intent of H.R. 12461 to be admirable. I do have reservations, however, concerning some specific features of the bill and concerning its implementation. I will conclude my statement with a few brief comments on these aspects of the bill:

1. Finding #2 of Title 1 states that: "Rates for electric energy increased dramatically during each of the years 1971 thru 1975." Based on Pepco's rate history during the years in question, that would appear to be a gross overstatement of the situation. 1974 was the only year in which rate increases could be properly described as "dramatic". In 1975, in fact, the average rates for most of Pepco's customers declined appreciably.

2. I believe the restriction on declining block rates -- Section 203(a), paragraph (2) -- to be unwise. Notwithstanding the fact that it is fashionable in some quarters to characterize declining block utility rates as inherently unscrupulous, I suggest that we should be objective enough to recognize that -- with certain exceptions -- declining block rates serve merely "to reflect the costs of providing electric service to (the) consumer..." (Sec. 203(a)(1)) A rhetorical question: Is the grocer unscrupulous when he charges you less per potato when you buy potatoes in a ten-pound bag than when you buy potatoes one at a time?

3. I believe this bill could accomplish its basic objectives with far less involvement of the Federal government at the State regulatory agency level than is envisioned in the current wording.

4. And finally, I would seriously question the necessity for the financial grant program described in Title IV.

* * *

This concludes my statement.

Attachment to R.V.Grahn statement on H.R. 12461 of April 9, 1976

PROPOSED MODEL "LIFELINE" RATE STRUCTURE (Based on current Pepco rate schedules for D.C.)

Objective: To design a rate schedule which will provide that low usage-low income customers can purchase a subsistence quantity of electric energy at a reasonable minimum cost, and will also provide that all customers who consume electric energy at levels in excess of the subsistence quantity are charged at rates commensurate with their total cost of service.

Definitions

1. Subsistence quantity is best defined at two levels: Zero to 200 kwh per month -- full subsistence; 200 to 300 kwh per month -- transition from full subsistence to normal charges. 200 kwh provides, on the average, domestic lighting and food refrigeration, the use of a hand iron, radio, toaster, fan and heating pad, and most of the use of a television, hair dryer and other semi-essential appliances. 300 kwh per month provides enough energy for all these uses plus a washing machine, dishwasher and many other smaller appliances.

2. Reasonable minimum cost is defined as the average base rate cost for all residential sales. Current average is 3¢/kwh in D.C.

The rate structure

1. Price the first 200 kwh at 3¢/kwh, with a minimum charge of \$1.50 applicable to all usage of 50 kwh per month and below.

2. Price the next 100 kwh of usage -- from 200 to 300 kwh per month -- at a rate which will produce the same revenue from the 300 kwh customer as would be obtained under the existing rate structure. This works out to 3.7¢/kwh for this 100-kwh block.

3. Price all usage over 300 kwh per current rate schedule. Assume, for the purpose of this discussion, that such usage is now priced with due regard for such considerations as cost of service, peak use deterrents and, if appropriate, off-peak incentives.

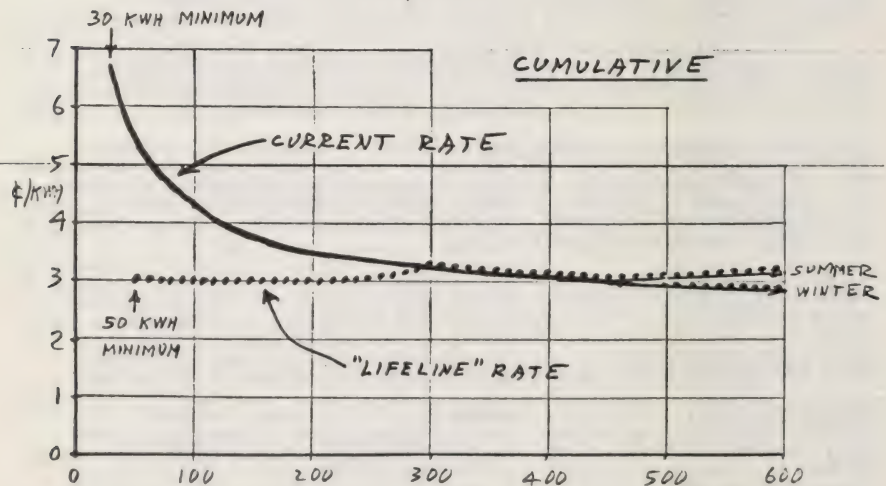
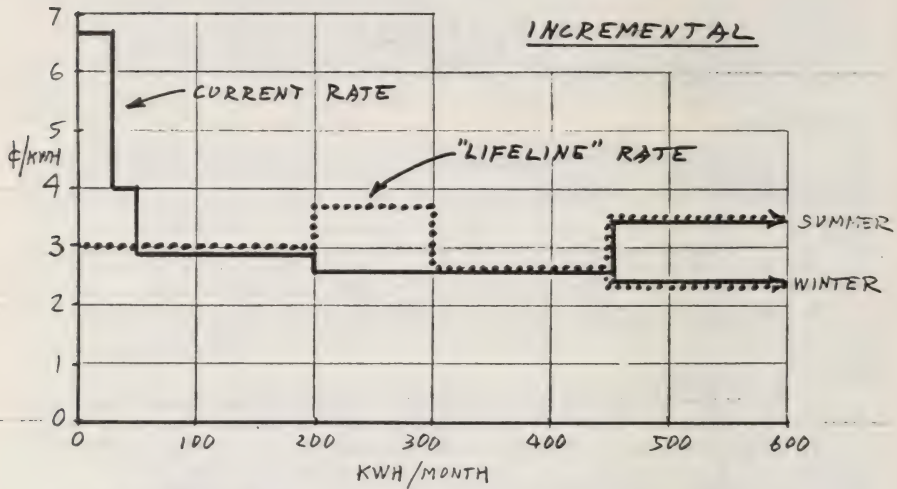
The rate structure in graphic form: Exhibit 1 compares the present residential rate structure and the proposed "lifeline" rate structure. The top chart portrays the two rate structures in incremental terms; the lower chart in cumulative terms. Note that the proposed rate structure produces an almost completely flat cumulative rate picture from the 50 kwh minimum level on up.

Effect on the customer: The 200-kwh customer, who has already benefitted from zero increase in his basic rate for nearly four years, would actually see a 16% reduction in his basic bill -- from \$7.12 to \$6.00. The "transition" customer -- 200 to 300 kwh -- would find reductions ranging from \$1.12 down to zero. The customer using more than 300 kwh per month would see no difference whatsoever in his bill.

Effect on Pepco: Obviously, savings made by low-usage customers must translate into a revenue loss for Pepco. Since revenue is lost only from those customers who use less than 300 kwh per month, the impact is relatively slight -- about \$800,000 annually. This revenue loss could be readily and almost painlessly recouped by the imposition of a two-hundredths of a cent (\$0.0002) per kwh increase on all usage by all customers.

CURRENT RATE vs PROPOSED "LIFELINE" RATE

Current Pepco residential rate schedules
for the District of Columbia used as basis





Schenectady Community Action Program, Inc.

75 Lafayette Street
Schenectady, New York 12307
518 / 374-9181

Laurence O. Welsh
Chairperson of the Board

Phillip H. Gillispie
Executive Director

Dolores Moore
Program Coordinator

Lola Cole
Head Start Director

Jeanette Sellnow
Finance Director

Ralph Moore
Special Projects Director

April 9, 1976

Before the

HOUSE ENERGY AND POWER SUBCOMMITTEE

concerning the

Electric Utility Rate Reform and Regulatory Improvement Act

Testimony

of

Fred M. Dusenbury

Energy Conservation Center
374-9181

Head Start
377-8539

Urban Fellows Institute
372-4667

Human Resources
377-8868

Family and Women's
Advocacy Service
372-6473

TESTIMONY OF FRED M. DUSENBURY

1 My name is Fred Dusenbury. I am the Public Service Commission (PSC)
2 Coordinator for the Schenectady Community Action Program, Inc., at 75 Lafayette
3 Street, Schenectady, New York 12307. I am the author of a report
4 published in September, 1975, by the Urban Fellows Institute on Policies
5 and Practices of Niagara Mohawk Power Corporation. I have traveled extensively
6 throughout New York State for meetings with a wide variety of groups
7 and their representatives concerning the human problems created by rising
8 utility costs.

9 I am now preparing, as Project Director, a program for "Consumer Advocacy
10 in the Energy Crunch" on a statewide basis in the State of New York
11 with the approval of the New York State Alliance of Community Action Program,
12 Inc., which are federally funded and mandated to represent the low-
13 and-fixed-income people of New York State. The Project envisions creation
14 of a model for consumer advocacy in the energy crunch which could be replicated
15 nationwide through the efforts of the almost 900 Community Action
16 agencies and their state associations.

17 We have intervened in PSC Case 26806, the generic rate hearings now
18 underway in New York State. We have presented testimony before the New
19 York State Assembly Committee on Corporations, Authorities and Commissions
20 on the subject of Lifeline rates and the needs of the poor.

21 Your committee has received testimony from three people currently involved
22 in the historic PSC Case 26806 in New York: Edward Berlin, a former
23 attorney for the Environmental Defense Fund (EDF) is now a Public Service
24 Commissioner having been recently appointed by Governor Carey. Dr. Ernst
25 Habicht has worked for EDF in that case, and Dr. Joe D. Pace has testified
26 against Lifeline in that case with essentially the same testimony he presented
27 in Arizona, Wisconsin, Oregon, New Jersey and Massachusetts. Joe Pace
28 favors "fuel stamps."

29 In representing the poor people of New York State, I cross-examined
30 Dr. Pace on March 31, 1976, concerning his direct testimony, and he was
31 also cross-examined on that date by Dr. Marvin Sarnikoff, Staff Scientist
32 for the New York Public Interest Research Group, Dr. Robert Frank and Neil

FRED M. DUSENBURY

1 Rauch of the Chemung County Neighborhood Legal Services Utility Project,
2 John Rosenberg, Esq. of the New York State Consumer Protection Board and the
3 staff of the New York State Public Service Commission. I am submitting for
4 the record at this time a copy of the transcript of this cross-examination
5 of Dr. Pace which we feel to be fundamental to this hearing. Since we just
6 received this 214-page transcript yesterday, we were unable to supply the
7 committee with 75 copies, and frankly, reproduction in such volume is beyond
8 the limits of my meager budget. We do, however, sincerely urge this committee
9 and the staff to read this record because we believe it severely undermines
10 the Pace testimony in a number of ways. I would like to direct your atten-
11 tion further to the two-page statement by Dr. Resnikoff submitted with this
12 testimony which categorizes the Pace testimony as "fatally undermined," and
13 cogently summarizes the major assumptions and conclusions and objections
14 thereto.

15 The statement submitted to me from the Chemung County Neighborhood Legal
16 Services Utility Project and included with my testimony notes that our Life-
17 line testimony in Case 26806, which is especially applicable to HR 12912, is
18 not yet completed. We expect this testimony to be complete no later than
19 May 3, 1976, at which time I believe a meeting with Chairman Dingell would
20 be most constructive and add significant substantive matter to the record in
21 the case of HR 12912.

22 Submitted with my testimony also is the Preliminary Committee Report on
23 the Lifeline Concept prepared by Robert A. Kurtter, New York State Assembly
24 Office of Research and Analysis dated February 24, 1976. All of the argu-
25 ments presented in opposition to Lifeline are effectively refuted in the
26 body of this excellent report and in the transcript of the Pace cross-
27 examination. I would especially recommend to this committee the contents
28 of Table 6 - Percentage of Households Owning Major Appliances, By Income
29 Group, Table 7 - Household Electrical Energy Use by Income Group, Table 8
30 Electricity Consumption by Income Group 1970-71 Los Angeles, Table 9 -
31 Employment by Sector Distribution, and Tables 10 and 11 which deal with

FRED M. DUSENBURY

1 purchased electricity vis-a-vis industrial costs.

2 I think this committee should be aware that I come before you on be-
3 half of low-and-fixed-income people as a direct result of two elderly
4 people freezing to death in my home town of Schenectady, New York, when
5 a utility lineman disconnected their power in 12° F. weather. Their tele-
6 phone had already been disconnected, cutting them off from communication
7 with the outside world. Their frozen bodies were found by their grandson
8 on Christmas Eve of 1973 when he returned home from military service fur-
9 lough. Since that Christmas Eve others have died in similar situations,
10 not only in New York, but in other states. And as of this date in New
11 York State no one is required to do anything to prevent an elderly couple
12 from freezing to death due to power disconnection. No one, of course--
13 thanks to our protective Public Service Commission--will freeze to death
14 during holidays or weekends. As I noted in my report on the utility in-
15 volved, it is not a matter of there being "no basis to....criticize any
16 person, public servant or other organization" as the Schenectady County
17 Grand Jury put it - rather it is a matter of recognizing that we were
18 all to blame and are still all to blame for doing nothing, and as long as
19 any utility can cause any person to freeze to death, we will be to blame
20 for doing nothing. The State of New York did nothing except guarantee that
21 people would not freeze to death on weekends and holidays, and currently
22 in New York there are probably less than one hundred days in any one year
23 on which you could freeze to death. But all it takes is one of these days.
24 Federal action would seem appropriate.

25 As I noted in the cross-examination of Joe Pace, he offers the poor
26 by way of "fuel stamps" the marvelous prospect of being able to choose be-
27 tween being a warm skeleton and a solid block of ice with a full stomach.
28 And I repeat here my remark to Joe Pace: "I pray to God that that choice
29 will never have to be made by any one in this room."

30 It is within the power of Congress to prevent the terror of such choices
31 by the poor, and the legislation you are considering is certainly a step in
32 the right direction. You can permit this terror to proceed - and get worse -

FRED M. DUSENBURY

1 or you can stop it. That is your choice. Whether you call it "Rate Reform"
2 or "Regulatory Improvement" or "Lifeline" does not really matter. What mat-
3 ters is that the poor of this nation do not merely "go gentle into that good
4 night" as the poet Dylan Thomas put it - no, "Old age should burn and rave at
5 close of day," and if enough of these choices occur, they will surely "rage
6 against the dying of the light."

7 We are asking you to give the poor, the old and the feeble adequate
8 light and heat at a price they can afford. And we ask you no more than to do
9 unto others what you would have them do unto you.
10 Thank you,

April 8, 1976

MEMO TO: Fred Dusenbury, Project Coordinator
"Consumer Advocacy in the Energy Crunch"
Schenectady Community Action Program

FROM: Neal Rauch, Utility Project Director
Chemung County Neighborhood Legal Services
(C.C.N.L.S.)

SUBJECT: H. R. 12461

1. H. R. 12461 is an extremely comprehensive bill which ex-
2. pands the authority and responsibility of the Federal Power Com-
3. mission, sets forth guidelines for the reform of electric rate
4. structures, directs the state public service commissions to establish
5. a lifeline rate, and rules on several other regulatory issues.

6. C.C.N.L.S. agrees with the general principles and objectives
7. described in Title I of this bill. Specifically the average cost
8. based, declining block rate structure is not an efficient or equit-
9. able pricing schedule. Recent regulatory policies have not been
10. adequate to resolve the current problem of rapidly increasing
11. costs of service. The burden of increasing rates can be mitigated
12. by the reform of rate schedules and by enlightened regulatory
13. policies regarding planning, coordination and competition. Con-
14. sequently we support the general aims of H. R. 12461; however,
15. we have certain reservations concerning the lack of flexibility
16. allowed the commissions under certain provisions of the Bill.

17. First, the concept of marginal cost is incorrectly defined
18. in Title II, Section 201, paragraph (1). This definition confuses
19. the concepts of average versus marginal cost with the concepts of
20. historical versus current costs. Although we support the use of

1. marginal cost pricing as a basis for establishing peak/off-peak
 2. rate differentials, we do not support the use of current or re-
 3. placement costs in the valuation of a utility's rate base.
 4. The definitions given in this section may cause state commissions
 5. to value the utility's rate base at an inequitably high level thus
 6. generating excess revenues.

7. Second, Title II, Section 203, paragraph (3) directs commis-
 8. sions to establish a lifeline rate corresponding to a "subsistence"
 9. level of power. The definition of subsistence seems to be re-
 10. strictive in that the commissions are only required to include
 11. levels of power sufficient for lighting and food refrigeration.
 12. We believe that the commissions should be required to set the life-
 13. line volume high enough to include cooking and other uses deemed
 14. necessary in the particular service area.

15. We would like to point out that C.C.N.L.S. is currently
 16. conducting an investigation into the needs and income levels of resi-
 17. dential customers in New York State. These findings should be of
 18. significant use in the evaluation of H. R. 12461. We would like to
 19. arrange for our staff to meet with members of the Committee on
 20. Interstate and Foreign Commerce to provide the Committee with the
 21. results of these investigations and to discuss the issues surround-
 22. ing the implementation of a lifeline rate.

23. Finally, we recognize that H. R. 12461 contains many com-
 24. plex provisions which we cannot evaluate completely at this time.
 25. However, we are concerned that the directives of the Bill may be
 26. so restrictive as to prevent the State Regulatory Commissions
 27. from exercising their expertise with respect to the unique charac-
 28. teristics of the firms under their jurisdiction.

April 9, 1976

Statement for the
HOUSE ENERGY AND POWER SUBCOMMITTEE
concerning the
Electric Utility Rate Reform and Regulatory Improvement Act
in the matter of
Cross-examination of
Joe D. Pace, Vice-president of
National Economic Research Associates, Inc. (NERA)
on
March 31, 1976
before the
NEW YORK STATE PUBLIC SERVICE COMMISSION
in
Case 26806

Statement
of
Dr. Marvin Resnikoff
NYPIRG Staff Scientist
174 West Avenue
Buffalo, New York 14201

STATEMENT OF MARVIN RESNIKOFF, Ph.D., NYPIRG STAFF SCIENTIST

1 The direct testimony of NERA witness Joe D. Pace, was fatally undermined
2 during cross-examination by the New York Public Interest Research Group,
3 March 31, 1976. This note summarizes the assumptions and conclusions of
4 Mr. Pace, and recaps his responses under cross-examination.

6 The essential conclusions reached by Mr. Pace are that the Lifeline rate
7 structure does not lead to conservation of energy, and that the Lifeline rate
8 structure does not aid the poor in New York State. His argument to support
9 the conservation argument was that by providing a rate reduction to small con-
10 sumers of electricity their consumption would be increased, offsetting the re-
11 duced consumption of electricity by the larger electric consumers. Under
12 cross-examination by Dr. Marvin Resnikoff of the New York Public Interest Research
13 Group, Mr. Pace agreed that consumption by poor persons was relatively inelastic,
14 that is, even if rates were reduced to poor persons, their consumption would not
15 increase. The reason, Mr. Pace agreed, was that poor persons did not have the
16 appliances and other means to consume increased amounts of electricity. In
17 fact, the dollar savings could go for food. On the other hand, the larger resi-
18 dential consumers of electricity did have means to consume less electricity;
19 the coefficients of elasticity increased with income group. The industrial
20 and commercial consumers also had relatively large coefficients of elasticity
21 and would cut back consumption if the price were increased. Mr. Pace said he
22 was familiar with the book, A Time to Choose, by the Energy Policy Project of
23 the Ford Foundation, where these elasticities were described, and where a
24 survey of household appliances by income groups was detailed. Mr. Pace stated
25 he had no better elasticity figures than those. Mr. Pace then agreed with the
26 examiner that were the Lifeline rate structure to be installed, the larger
27 consumers would probably consume less, but the small consumers would probably
28 not greatly increase their consumption to over-compensate. Thus, the net
29 effect would be conservation.

30 The second argument by Mr. Pace is that the poor would not be helped by
31 Lifeline. He defined "the poor" as those persons having an income under \$4,000.
32 His argument was essentially that persons in mass-metered dwellings, such as

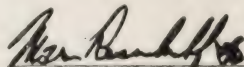
Dr. Marvin Resnikoff

1 large apartment houses, would not be aided by Lifeline. He showed that 1/5
2 of all persons who earn less than \$4,000 live in such dwellings, and that
3 therefore 1/5 of these poor persons would not be benefited. In fact, if the
4 rate increases were passed along to the commercial consumers, which includes
5 these mass-metered apartments, these poor persons would have increased rates.
6 However, he agreed that the New York State Lifeline bill would exempt such
7 dwellings from a rate increase due to Lifeline, and that these persons would
8 therefore not be affected. Next, Mr. Pace attempted to show that some poor
9 persons were large consumers of electricity, and these persons would be harmed
10 by Lifeline. However, since the electric utility data does not correlate
11 income with consumption, he agreed that he had no hard information which
12 proved this point.

13 The final support for his argument that the poor would not be helped by
14 Lifeline was that increased electric costs to industrial and commercial con-
15 sumers would be passed back to poor persons in the goods and services they
16 purchased. The questions were: what percentage of manufacturing and other
17 costs due to electricity were contained in products consumed by poor persons,
18 and similarly for more affluent persons; what percentage of these goods would
19 be sold out of state; could manufacturers cut costs by decreasing their elec-
20 tric consumption without decreasing their productivity? Mr. Pace had no
21 answers to these questions. He did agree that electric costs were a small
22 part of food costs, less than 0.6%, as cited from A Time to Choose. He did
23 not know whether these increased costs might be passed along to more afflu-
24 ent persons rather than poor persons. In short, the support for this argument
25 that increased electric costs would be passed along to the poor was extremely
26 weak under cross-examination.

27 Dr. Alfred Kahn, the Chairman of the New York State PSC interjected later in
28 the day that there is no question that the full increased costs would not just
29 be passed along to poor persons and that there would be a net savings for poor
30 persons under Lifeline. Chairman Kahn, noted economist, was clearly uncon-
31 vinced by Mr. Pace's arguments.

32 The essential conclusions reached by Mr. Pace, that the Lifeline rate
33 structure does not lead to conservation of energy, and does not aid the poor,
34 did not withstand cross-examination.


Marvin Resnikoff
NYPIRG Staff Scientist

STATEMENT OF BRUCE A. FREDRICKSON, MEMBER,
CITIZENS VOWING TO OPEN INTERVENTION FOR CONSUMERS OF ENERGY
WASHINGTON, D.C.

Hearings before the Subcommittee on Energy and Power of the
Committee on Interstate and Foreign Commerce
April 9, 1976

Thank you, Mr. Chairman, for the opportunity to appear before the subcommittee to present testimony on H.R. 12461. I am Bruce Fredrickson, a member of Citizens VOICE, a consumer organization established by three George Washington University law students. Citizens VOICE is particularly interested in Section 308 which would establish an Office of Public Counsel and enable the Federal Power Commission to reimburse participants in its proceedings.

Citizens VOICE is involved in an effort to promote legislation which will raise the voice of public participants at the FPC above its present whisper. To determine the best approach to improve public participation there, we have surveyed citizen groups across the country which have participated or wanted to participate at the FPC. The frustrating experiences of these groups illustrate the crying need for reimbursement of participation costs and affirmative encouragement of citizen participation. Thus, Citizens VOICE with the support and aid of Representative Ottinger's office, has drafted legislation which would allow reimbursement of citizen participants at the FPC. Representative Ottinger introduced the final version of the Citizens VOICE proposal, H.R. 13032, on April 5.

Citizens VOICE heartily endorses the concept of Section 308 of H.R. 12461, since it takes an approach similar to Representative Ottinger's bill: both bills would provide for reimbursement of citizen participants

and create an office designed to bring the consumer perspective before the Commission more effectively. The cost and complexity of FPC proceedings necessitate this dual approach. An office to facilitate citizen input is necessary due to the expertise required to effectively participate at the FPC. Reimbursement of participation expenses is critical because of the staggering costs of participation.

Although Citizens VOICE supports Section 308, we recommend a combination of the Ottinger bill with Section 308 "(g)". The Ottinger approach is advantageous because it provides for administration of the reimbursement fund by an independent office within the FPC, guided by explicit statutory requirements. Section 308 establishes an Office of Public Counsel which would solicit citizen input and substantively represent consumer viewpoints.

Citizens VOICE suggests that the Office of Public Counsel of Section 308 be empowered to administer the reimbursement fund according to the statutory guidelines of the Ottinger bill. These measures would increase the Public Counsel's accountability to the public and provide for more efficient administration of the fund.

Before I go into detail as to the specific changes we suggest, I would like to briefly address the basic question of the great need for Congressional action to alleviate the dearth of meaningful public participation at the FPC. This overview is taken from the detailed analysis written by Citizens VOICE which explains the legislation we support and is based on experiences which frustrated FPC participants have related to us. I would like to request that this document, entitled "Facilitating

Public Participation at the Federal Power Commission," be incorporated in the hearing record.

Adequate Public Participation Is a Handicapped but Vital Necessity

There is no longer any question that the United States is trapped in the midst of an energy crisis that is harshly affecting the consumer. The Federal Power Commission plays a vital role in the decisionmaking process through which our energy policy is being developed, but the barrier of excessive costs prevents most consumer groups from participating at the FPC. Extraordinary participation expenses force the FPC to make most decisions without the benefit of the consumers' perspective. Utilities arguing before the FPC can pass on litigation expenses to consumers by adding the costs to the rate base, so they have no worries about excessive costs. Yet the consumers themselves have to scrounge for every dollar. The staggering costs of participation at the FPC have subverted the right of any citizen to be heard by his or her government.

Broad based citizen input would check the awesome influence of energy suppliers and enable the Commission to weigh the various aspects of the public interest. Former Commissioner Lee White learned well the importance of public participation while he was a member of the Commission:

... what I thought was required was an all-out advocate for the consumer's position to enable me as a regulator to assess their arguments when pitted against those advanced by representatives of the industry.

Letter from Lee White to Senator Abraham Ribicoff, July 15, 1974.

The best representatives of consumer viewpoints are consumers themselves. Their perspective will be most effectively presented if they work together

with a dynamic Public Counsel.

Despite the well recognized need for citizen input at the FPC, the costs of public participation have severely hampered citizen efforts. Brock Evans, attorney for intervenor Sierra Club in the Hells Canyon hydroelectric dam siting controversy, claimed in a recent conversation with a Citizens VOICE member that "finding the \$15,000 necessary to finance the three year battle to save Hells Canyon was like squeezing blood out of turnips."

In the Hells Canyon dispute, expert witnesses for the Sierra Club donated their services, paid their own travel expenses, and slept on floors while in Washington to testify, according to Mr. Evans. Attorneys waived their fees entirely or worked at cut rates. Transcript costs were reduced by peeking at the daily transcripts of others, while waiting weeks to buy the less expensive transcripts. Under this citizen pressure, the FPC relented and issued a four year moratorium on the dam licensing to give Congress time to consider passing legislation to protect the Canyon.

Evans asserts that this case was won by "love, devotion, and the care of the people." But effective, persistent citizen participation demands more than just a lot of heart. The disturbing aspect of the Hells Canyon controversy for public participants is that it does not represent an unusual instance of citizen participation, but rather it is the norm, as the study by Citizens VOICE on participation at the FPC thoroughly documents. Attempts at citizen participation in all types of FPC proceedings make up a series of tales of woefully underfinanced groups struggling to make their voices heard.

The most effective approach to redress the lack of citizen input at the FPC is a combination of a public counsel and reimbursement of participation costs. Combining the two will respond to the most frequent charges made against either concept when considered alone.

The public interest is not a monolith, and thus, it is often charged that the public counsel cannot represent all the different interests of the public. The precise truth of this statement gives tremendous support to the need for the public counsel to help facilitate participation by concerned and knowledgeable citizens through reimbursement and procedural guidance. A frequent criticism made against relying solely on citizen participation is that it may not be expert and persistent. Establishment of the Office of Public Counsel should prevent this danger by providing a permanent expert advocate for consumer interests.

Section 308 would take these measures, and thus, we endorse the approach taken by the provision. However, we advocate certain specific changes — primarily, incorporation of the more detailed approach of H.R. 13032.

Suggested Changes in Section 308

The primary problem with the language of Section 308 alone lies with its lack of statutory guidance for administration of the citizen reimbursement program. The language is drawn from the Federal Trade Commission Improvement Act of 1975, Pub. L. No. 93-637, which has posed some significant problems for citizens groups seeking awards from the FTC. Citizens VOICE has drawn upon the wisdom and experience of both FTC and FPC participants. The legislation which we drafted in conjunction with Representative Ottinger, H.R. 13032, is designed to avoid the problems

which are being encountered by participants at the FTC, in order to prevent similar problems from arising at the FPC.

Citizens VOICE recommends a combination of the public counsel provisions of Section 308 with the language of H.R. 13032 so that the Public Counsel would have the additional duties of implementing a reimbursement fund and facilitating public participation. Furthermore, we support incorporation of the Ottinger bill so that the guidance necessary for effective implementation of the fund will be provided by Congress.

Specifically, Citizens VOICE feels that the points which should be included in a modified Section 308 are: (1) independent administration of the reimbursement fund; (2) greater representation of the public interest through more emphasis on public participation; (3) better criteria as to eligibility; (4) specificity as to types of reimbursible participation costs; (5) criteria as to timing of reimbursement awards; (6) appeal of award provisions; (7) award of attorney and expert witness fees for judicial review of Commission decisions; and (8) creation of a special fund for the reimbursement of participants.

1. Independent administration.

Independent administration of the reimbursement program, as the Ottinger bill requires, would prevent the decisionmaker, the Commission, from controlling input into the proceeding by controlling the parties who are funded. Section 308 leaves the administration of the fund to the Commission. Why not have the Office of Public Counsel, which is specifically established to promote representation of the consumer perspective, implement the reimbursement program instead?

2. Facilitation of public participation.

Reimbursement of public participants would promote more diversified input into FPC decisionmaking, but public interest groups often need more than just money in order to make their participation effective. Consequently, the Office of Public Counsel should be expressly authorized to assist interested members of the public by providing procedural and strategic guidance toward effective FPC participation.

3. Eligibility for reimbursement.

The Ottinger method for determining eligibility for reimbursement would be much more effective than the method currently in Section 308 and should be incorporated. It is based on (1) ability to represent an otherwise unrepresented interest which will substantially contribute to a proceeding, and (2) lack of sufficient resources to participate, or lack of economic stake in comparison with the costs of participation. Eligibility in Section 308 is based on (1) ability to represent an otherwise unrepresented interest whose representation is necessary for a fair proceeding, and (2) lack of economic resources.

The Ottinger bill avoids determination of what is "necessary" for a fair proceeding, relying instead upon a determination of what will substantially contribute to a proceeding. Some award applicants at the FTC have found that "necessity" language of the FTC authorization has prompted the administrators of the program to take a restrictive approach to making awards. The applicants, as a consequence, have been forced to incur substantial preapplication costs simply to justify the necessity of their participation. For a group needing funds to participate, high preapplication costs may inhibit even the attempt to obtain a reimbursement grant.

The Ottinger bill also recognizes that large consumer and environ-

mental groups might be precluded from receiving compensation if the bare economic resources test of H.R. 12461 is used. By using the standard of substantial contribution and economic stake of the Ottinger bill, these public interest groups clearly would be eligible, while under H.R. 12461 they may not be.

4. Types of reimbursible participation costs.

The Ottinger bill is preferable to H.R. 12461 because it includes in its definition of reimbursible participation costs attorney's fees, expert witness fees, filing fees, research, investigation, preapplication, travel, administrative, and transcript costs, and miscellaneous expenses. Costs would be calculated at prevailing market rates. This would make clear the Congressional intent to provide reimbursement for all kinds of participation costs. H.R. 12461 only covers costs incurred in preparing oral presentations, conducting cross-examination, and making rebuttal submissions. The provision does not contain a broad definition of participation costs and does not give any guidance on calculation of costs.

5. Timing of reimbursement awards.

The Ottinger bill permits awards to be made on a monthly basis as costs are incurred or in any other manner deemed appropriate. Determination of awards should be made prior to the commencement of a proceeding, whenever possible. In contrast, H.R. 12461 gives no guidance on the timing of award determinations or grants.

Effective participation by citizens and groups most in need of compensation will often depend on advance or at least concurrent payment of costs incurred. Also important is prompt notice that an award will be made. One FTC participant applying for reimbursement waited several

months for some indication that its participation costs would be reimbursed. Finally, two weeks before the rulemaking proceeding, the FTC granted the applicant's request, but the delay severely hampered the participant's efforts. Congressional intent to insure timely reimbursement decisions should be explicit to avoid this kind of problem.

6. Appeal of award decisions.

The Ottinger bill permits expedited appeal to the U.S. Court of Appeals of decisions denying compensation, while H.R. 12461 has no provision for appeal of award decisions. A specific provision insuring the reviewability of these decisions should be made.

7. Award of attorney and expert witness fees for judicial review of Commission decisions.

The Ottinger bill permits courts to order the Commission to reimburse a party, from appropriations other than the compensation fund, for litigation expenses incurred in the appeal of a Commission decision, if the party meets the eligibility requirements of the bill. H.R. 12461 has no provision for award of litigation expenses for the appeal of Commission decisions.

The Ottinger bill would better allow citizen participants to obtain review of Commission decisions adversely affecting the public and running contrary to law. H.R. 12461 tries to reach a similar goal by enabling the Office of Public Counsel to appeal Commission decisions, but the Public Counsel would be hard pressed to represent all the various facets of the public interest through these appeals.

8. Authorization of funds.

The Ottinger bill authorizes two million dollars to be appropriated each fiscal year, which shall be expended for reimbursement of participation

costs. H.R. 12461 provides that compensation paid in any fiscal year may not exceed \$1,000,000.

H.R. 12461 does not provide for the appropriation of any funds for reimbursement. These funds would presumably come from the regular FPC budget. However, the payment of funds is discretionary with the Commission, which could decide within the law that no funds be paid in a particular year. The Ottinger bill authorizes a \$2,000,000 appropriation to be used solely for the reimbursement program. A separate fund is necessary if the problem of grossly inadequate citizen participation at the FPC will ever be redressed.

In summary, Citizens VOICE commends this subcommittee for its concern with public participation at the FPC. Decisions substantially shaping our nation's energy policies and strongly affecting consumers are being made regularly by the FPC, which means that citizen input in FPC decision-making is growing more and more critical. Yet citizen voices are heard all too infrequently. Without comprehensive efforts to stimulate and facilitate participation, the costs involved in appearing before the FPC will preclude all but a very few from effectively presenting their cases before the agency.

The FPC can truly fulfill its Congressional mandate to operate in the public interest only if it considers all relevant issues and viewpoints in its proceedings as presented by a broad spectrum of the public. The establishment of an Office of Public Counsel and a fund administered by it to reimburse certain citizen groups will provide this broad spectrum of opinion. It is a practical and feasible method of greatly increasing the FPC's responsiveness to the public and of making citizen input count.

MATERIAL SUBMITTED FOR THE RECORD

STATEMENTS OF: HON. JOHN J. McFALL, HON. FERNAND J. ST GER-
MAIN, HON. FRANK THOMPSON, JR., GEORGIA POWER CO., NA-
TIONAL OIL JOBBERS COUNCIL, AND HUNTON AND WILLIAMS'
MEMO ON THE ANTITRUST ASPECTS OF H.R. 12461

STATEMENT OF REPRESENTATIVE JOHN J. McFALL, 14th DISTRICT OF CALIFORNIA, BEFORE HOUSE SUBCOMMITTEE ON ENERGY AND POWER IN SUPPORT OF TITLE III OF H.R. 12461 AND H.R. 12608, APRIL 9, 1976.

Mr. Chairman, I am glad to have this opportunity to submit my views on H.R. 12461 and related legislation. Title III of H.R. 12461 and a bill I have introduced, (H.R. 12608, reintroduced as H.R. 12848) along with my colleagues, Congressmen Don Edwards, Harold T. "Bizz" Johnson, Robert Leggett and Don Clausen, would reform the Federal Power Act, which has remained essentially intact since its enactment in 1935, in several areas demanding immediate attention from the Congress.

While I believe that the Federal Power Act, as enacted in 1935, has served a good purpose, changes in that statute are now necessary if competition is to be kept alive within the electric industry and if the Nation is to be assured that bulk power supply facilities, such as generating plants and transmission lines are to be used in the most efficient manner. At the present time, it appears that the Commission has lost sight of the fact that its function is twofold: to protect wholesale purchasers of power in interstate commerce from anticompetitive practices of private electric utilities, and to give such customers effective protection from excessive rate charges. The purchasers meant to be protected under the act are small electric utilities, such as municipal electric systems or rural electric cooperatives, which purchase all or part of their power from large private companies. These customers are frequently in a position to deal only with their large supplier for purchase of power, transmission service, access to generation, or cooperation in the planning, building, and operation of bulk power supply facilities. Yet, at the same time,

these small systems offer viable competition within the electric industry. This relationship was described in 1965 by Lee C. White, then Chairman of the Federal Power Commission, in testimony before the Senate Commerce Committee, when he stated:

To the large privately-owned electric utility a retail customer, even a large industry, is simply a customer. However, a wholesale customer is frequently also a competitor, actual or potential. The customer at whole sale may not only be a competitor in the fringe area where the two systems are contiguous, but may also be a direct or potential competitor for the commercial and industrial businesses that are able to take costs and conditions of electric service into account in deciding where to locate and which power supply to patronize.

The electric power wholesaler may in fact be seeking to put the retailer out of business. This is not merely theoretical. Every year many municipal systems succumb to purchase offers by investor-owned wholesale suppliers. In this respect wholesale rate regulation in the electric power industry is unique and faces far greater resistance by the privately-owned utilities than retail ratemaking....The Nation values its pluralistic independent small systems, public, cooperative, and investor owned. The necessity for Federal regulation to assure the survival of these small and medium-sized power systems is unmistakable.

To put this competitive relationship between large private power companies regulated by the FPC and their wholesale purchasers, such as municipal electric systems and rural electric cooperatives, in some perspective, it should be noted that wholesale sales of the large companies do not account for much of their revenues. For example, the municipal electric systems comprising the Northern California Power Agency which purchase from the Pacific Gas and Electric Company account for about 1.52 percent of that company's revenues. Yet these small municipal systems are paying a wholesale power bill to PG & E which may exceed 70¢ of each revenue dollar they receive from their consumers. And the large Southern California Edison Company had total revenues of \$1,668 million in 1975 of which only \$35 million was derived from wholesale sales.

This disparity in size between supplying power companies and their wholesale customers means that any action by the Commission which increases wholesale rates has a great effect on the small utility purchaser, while the wholesale supplier is almost unaffected in terms of overall revenues. The purpose of the Federal Power Act is to provide fair and reasonable wholesale rates in order to keep competition alive between large and small electric utilities. Without such protection there would be no viable competition between small and large electric utilities.

If any person doubts that monopoly conditions would prevail without FPC protection, evidence presented to this subcommittee by Mr. George Spiegel, attorney for many municipal utilities in California, on April 2 should dispel those doubts. Among the items he submitted to the subcommittee were documents obtained from the files of the Southern California Edison Company during discovery procedures, which detail the attempt by that company to acquire the municipal electric system of the City of Colton during the 1960's. Fortunately, that attempt failed, and the Colton system is still an active competitor and viable electric system. What is appalling is the fact that the company decided to dig in and map out a long-term take-over program. For example, one of the memoranda states: "Accomplishment of our total acquisition goals will take a minimum of two years, and more probably several years beyond that."

What the Southern California Edison Company failed to do in Colton -- to put a wholesale customer out of business -- could happen unless the Federal Power Act is reformed.

Under the present provisions of the Act wholesale customers must pay increased rates as filed before they are determined to be lawful. There may also be several such rate filings in operation at the same time, because of severe delay at the Commission in deciding rate cases. This can place the wholesale customer in a precarious position -- the wholesale rate being charged to him is higher than some retail rates being charged by his power company supplier serving customers adjacent to him, without any final determination that the wholesale rate is lawful. This is not the result intended by the Federal Power Act. While I believe the Commission has the authority to remedy the situation, amendment of the Act would insure that this task is accomplished.

The City of Lompoc electric system would have paid \$4,803 less for its power from the Pacific Gas & Electric Company in November of 1975 if it had been able to purchase under the tariff provided for industrial customers. How can an industry located in Lompoc consider that city a good location when its utility must pay more for wholesale power than PG & E is charging at retail? This situation has nothing to do with the efficiency of Lompoc, it has nothing to do with its management, it has nothing to do with its viability as an electric utility. It is simply the result of a deficiency in the Federal Power Act, and lack of Commission action.

Section 4 of H.R. 12608 would insure that wholesale customers will not be threatened with extinction merely because of the rate filing provisions of the present Act. Its enactment would bring an end to situations such as found in California where municipal utilities have absorbed wholesale rate increases from 44 to 97 percent without any final determination by the Commission as to

their lawfulness. Some of these filings have been pending for over three years without any final action. The following is a compilation of those filings:

		<u>Date Filed</u>	<u>Total Amount of increase</u>	<u>Date Hearing Completed</u>
PG & E	E-7777	9/29/72	\$ 2,385,361	1/74
PG & E	E-8928	7/24/74	3,092,115	9/75
SCE	E-8176	5/ 8/73	16,846,583	8/1/74
SCE	E-8570	1/ 2/74	20,589,710	12/17/74
SCE	E-76-205	10/31/75	16,664,000	

This bill would create opportunities for joint use of transmission facilities by all electric utilities. The need for this has never been greater. Pressures on the use of land along with the need to coordinate and maximize the use of generating facilities make it imperative that transmission facilities be used effectively to distribute electric power at wholesale. If access to transmission lines is not available, the alternative is to build duplicate facilities, forcing the consumer to pay for such duplication, and using valuable land. At the present time the Federal Power Act does not have a firm mandate to insure that transmission facilities are being used in the most efficient manner. In addition, there are situations in virtually every part of the Nation where large power companies are refusing to offer transmission services to small electric utilities, forcing such systems to remain as captive customers.

For example, in my State of California, the so-called California Power Pool is a pool in name only. There is no formal Pool organization, no Pool personnel, no Pool files. There is no coordinated

planning of new generation, and no attempt to equalize reserves. In fact, very few transactions take place under the Pool. The result is that the utilities in California don't take full advantage of possible economy interchange transactions to minimize energy cost to their consumers and individual utilities frequently carry excess reserve generating capacity which inflates their rate base and further drives up electric rates. In addition to the fact that this pool is ineffective and incomplete, there is no opportunity for participation by small electric utilities.

Transmission access would allow transfers of electricity, whereby utilities with surplus energy can sell to those systems who are in need of power. Such an ability to move power over transmission lines also eases the pressure for building new generation. Coordination, pooling, and joint planning would be facilitated by access to transmission facilities. All of these benefits can help the Nation's electric industry increase reliability of service to all consumers, and would help conserve fuel resources by enabling electric utilities to reach beyond their borders to plan and utilize efficient generating facilities, instead of being trapped into building less efficient generation within their particular area.

Recognized in both bills is the fact that there is a variety of transmission arrangements which must be available to all electric utilities if the Nation is to receive the benefits of full transmission utilization. In 1935, the industry had not progressed very far in the areas of pooling, wheeling, or coordination of power supply between utilities. The bills would insure that these power supply opportunities are available to all electric

utilities, and provide the Commission with a positive mandate to see that such opportunities come to fruition in a manner that will promote competition within the electric industry.

Recently, some large private power companies have indicated that they were going to put wholesale customers on a day-to-day basis, instead of providing a continuous source of power. This legislation would authorize the Commission to evaluate situations where a deficiency of power may exist, and insure the continuity of service to wholesale customers. Without such assurance the wholesale customer -- a competing utility -- has two choices: either remain a customer with no firm power supply, or build new generation which may not be the most desirable alternative. In either case, the purchasing utility is placed in a non-competitive position contrary to the goals of the Federal Power Act.

The bills also would strengthen the ability of the Commission to deal with anticompetitive situations by prohibiting any "unfair method of competition" under the Federal Power Act. This flexible standard would stop anticompetitive activities in their incipency. For example, at the present time there are contracts on file with the Commission containing language which is in clear violation of the antitrust laws -- such as restrictions on wholesale customer use of purchased power, territorial allocation, and limits on the ability of wholesale customers to enter into pooling, planning, or bulk power supply on a coordinated basis with other utilities. Under the bill contracts containing such provisions, or other anticompetitive language, must be rejected for filing by the Commission.

This approach would serve the same purpose as the 1970 amendments to the Atomic Energy Act which provided for prelicensing antitrust review, only such scrutiny would not be limited to nuclear facilities. Antitrust review under the Atomic Energy Act has opened new competitive opportunities for electric utilities across the nation. As an example of what benefits can come from such a review, the Pacific Gas & Electric Company, according to an advisory letter sent to the Nuclear Regulatory Commission by the Department of Justice on December 10, 1975, indicated that it would provide ownership access to the San Joaquin nuclear plant, would wheel power from that plant to other electric utilities, and provide reserve support to other electric utilities. All of these items would be conditions in the license for the plant. I understand that the Department of Justice, small electric utilities in California, and PG & E are still working on the resolution of antitrust problems, but certainly the conditions agreed to by PG & E are a step in the right direction.

Now is the time for Congress to extend the antimonopoly protections of the Atomic Energy Act to the Federal Power Act, and give the Commission the additional authority to promote competition within the electric industry. Such an amendment would aid in bringing the mandate of 1935 to fruition. The United States Supreme Court has stated this mandate clearly:

There is nothing in the legislative history which reveals the purpose to insulate electric power companies from the operation of the antitrust laws. To the contrary, the history of Part II of the Federal Power Act indicates an overriding policy of maintaining competition to the maximum extent possible consistent with the public interest. Otter Tail Power Company vs. U.S., 410 U.S. 366, 374 (1973).

The problems addressed in both H.R. 12461 and H.R. 12608 concerning fuel purchasing practices and audits were described in testimony before this Subcommittee by Mr. Gordon W. Hoyt, Utilities Director of the City of Anaheim, California, on April 2, when he stated:

The need for the provision requiring periodic review of fuel clauses proposed in H.R. 12461 has been demonstrated all too clearly to Anaheim. Shortly after the conclusion of the hearings held last May by the Subcommittee on Oversight and Investigations, and probably as the result of pressures from Congress as well as from wholesale customers including Anaheim, the FPC undertook special audits of the fuel accounts and fuel adjustment clauses of 14 utilities, including Southern California Edison Company. The findings of the FPC staff auditors resulted in a staff motion to reopen proceedings in Edison's pending rate increase case for hearings on the results of the staff audit. The audit disclosed that Edison has been improperly putting in its fuel accounts several types of expenses which are not includible in those accounts, according to the Uniform System of Accounts for Public Utilities and Licensees, including, among others, the cost of short-term financing for which it used its fuel as collateral, and the worldwide fuel exploration costs (for unsuccessful as well as successful projects) of a wholly-owned subsidiary. But for this special audit, this padding of the fuel accounts with improper items to increase collections under the fuel adjustment clause might never have been uncovered, with resultant enormous amounts of fuel clause overcharges over the years. Fortunately, this audit was conducted during the pendency of the rate proceeding in which the fuel clause was first introduced by Edison and all amounts were being collected subject to refund. The proceeding has not yet been concluded, but Anaheim is hopeful of receiving appropriate refunds in the near future. Customers of other utilities may not be so fortunate, however.

The provision in H.R. 12461 for regulation of fuel acquisition practices is particularly important. Southern California Edison Company apparently views this subject as very sensitive and confidential, in spite of the fact that it has an impact on close to half of its total expenses and cost Anaheim alone over \$12 million in 1975 in direct cost flow-through. When its contracts with fuel oil suppliers were made public by the California Public Utilities Commission, Edison's

witness testified in hearings before that Commission that the detrimental effect of this disclosure was to cause Edison to receive thirty to forty unsolicited offers of fuel oil in the 90-day period following public disclosure. These offers were tendered by sellers characterized by Edison as unqualified sources, and an unqualified source was defined by the witness as an entity from which Edison has not purchased fuel oil in the past and therefore does not have knowledge of its business capability in the area of fuel oil supply.

Based on this I can only conclude that there is evidently a club atmosphere between fuel suppliers and utilities which can only work to the detriment of the customer paying for the fuel through a fuel clause. Disclosure and some form of regulation of these practices is essential if charges under fuel clauses are ever to be brought under control.

Mr. Chairman, I wish to thank the Subcommittee on Energy and Power for this opportunity to express my views on the vital issue of Federal Power Commission reform. I urge the Subcommittee to approve those provisions in Title III of H.R. 12461 and H.R. 12608 which would accomplish such reform.

STATEMENT OF
CONGRESSMAN FERNAND J. ST GERMAIN
BEFORE THE
SUBCOMMITTEE ON ENERGY AND POWER
APRIL 5, 1976

Contained in the first Title of H.R. 12461 is a statement which accurately reports that the continued generation and transmission of an adequate supply of electrical energy at reasonable rates is critical to our nation.

For this reason, I am pleased to join with you in your efforts to assure an adequate supply of electrical energy at reasonable prices. It is my intention that this statement, which primarily concerns the practices of the Federal Power Commission as they pertain to the granting of rate increases for the interstate sale of electricity, will strengthen our objectives.

At the onset, let me compliment the Committee for considering legislation which is comprehensive in nature. The complexity of utility rate setting procedures and regulatory authority practices cannot be adjusted without a full and complete consideration of the entire process as a whole, including the objectives and capabilities of the agencies which have been established to regulate utilities for the common good. It is encouraging to further note the consideration of financial assistance to state regulatory agencies, for no reform can be effective unless those agencies which must consider the unique problems of each state can function properly.

While each regulatory authority must be effective, I am particularly concerned that special consideration be given to promote greater cooperation between Federal and State agencies. We, in Rhode Island, are fortunate to have a strong and effective Public Utilities Commission. Recent actions of the Federal Power Commission, however, have raised substantial questions as to the F.P.C.'s desire to work closer with state officials than with the companies the Commission is to regulate.

On July 20, 1975, the Montaup Electric Company of Massachusetts, which supplies power to Rhode Islanders, filed for a \$7.7 million increase which became effective on February 1, 1976. The New England Power Company, on March 1, 1976, was authorized to raise \$28 million in higher rates as requested in a petition filed November 28, 1975. While these increased rates for Rhode Island electric companies must be considered by the Public Utilities Commission as justification for higher rates for Rhode Island consumers. These undue delays cause uncertainties and problems even for the most efficient regulatory agency and, most importantly, my constituents do not have the assurance that the higher utility rates which they are expected to pay without question are justified.

Along with twenty-eight co-sponsors, I have submitted legislation which would amend the Federal Power Act to provide that public hearings shall be held prior to the Federal Power Commission granting rate increases for the interstate sale of electricity. I note that Section 304 of the Title III of this bill deals, in part, with the intent of my legislation in that it would prohibit the filing of a petition to increase a rate, should a previous request be pending, providing an

incentive for each utility to submit only those requests which are warranted. In each of these particular cases I have mentioned there are previous petitions filed by the same companies which have not, to date, been finally processed.

While I support the adoption of the provision of Section 304, I urge that you further require the Federal Power Commission to conduct public hearings prior to granting rate increases to generating companies for interstate sales. In my opinion, this will promote further cooperation between Federal and State authorities. It is my understanding that this practice is mandated by Public Utilities Commissions in a number of states and has been successful in providing sufficient time for a complete review of each petition while serving the immediate needs of the public.

In summation, there is little doubt that H.R. 12461 is good legislation. It will be a progressive step toward more effective regulatory practices and will benefit consumer and industry alike. I thank you for the opportunity to share my views on this important legislation and hope to work with you to achieve its future enactment.

Statement of Rep. Frank Thompson, Jr., (D-NJ)
before the Subcommittee on Energy and Power of the
House Committee on Interstate and Foreign Commerce
in support of H.R. 12461, the Electric Utility Rate
Reform and Regulatory Improvement Act

April 2, 1976

Mr. Chairman:

I want to thank the Subcommittee for this opportunity to testify in behalf of H.R. 12461, the Electric Utility Rate Reform and Regulatory Improvement Act.

I believe enactment of this legislation is necessary if we are to halt the precipitous rise in public utility rates which has so seriously hurt consumers. There are many people living in my district who, in keeping with the national policy of conserving energy, are very careful and frugal in their use of electricity. Yet they are the ones who today are paying the highest rate, while large industries and other big users, including those residential customers who waste electricity, are rewarded by a lower rate. H.R. 12461 would rectify this situation.

H.R. 12461 provides that a residential consumer may purchase a "subsistence quantity" of electricity at the lowest rate offered by the electricity distributor. Title II of the bill requires that rates of utilities must reflect the costs of service to each customer. This provision would reverse the common practice of today, wherein the more electricity a consumer uses the lower the rate he is charged per kilowatt hour.

H.R. 12461 further protects the public from unnecessary rate increases by requiring that political, promotional and institutional advertising costs be borne by the utility stockholder. The bill places limits on fuel adjustment clauses and other automatic rate adjustment clauses. Unless a ratemaking proceeding is held, increased fuel expenses or other expenses may be passed on to the consumer only to the extent that expenses have increased by more than five percent, and then only 85 percent of the excess expense may be passed on. H.R. 12461 excludes

entirely from fuel adjustment clauses transactions with affiliates. Utilities are also required to conduct an annual audit of fuel purchasing practices. In addition, construction work in progress must be excluded from the utility's rate base until the requirements of Title II of the bill are implemented. At that time, state regulatory authorities may include 66 2/3 percent of such costs in the rate base. Any producing facility currently under construction could be included in a rate base if existing state law permits such inclusion.

The requirements of Title II would be enforced by state regulatory authorities in the case of utilities now subject to state regulation. In the case of currently unregulated utilities the requirement of Title II would apply directly to the utility. Electric consumers are given the right to intervene in state proceedings to enforce compliance with the requirements of Title II, and to obtain judicial review in state courts. The bill provides that the courts may reimburse attorney fees to consumers who prevail in these proceedings, unless the state adopts an alternative method for assuring consumer representation in court.

H.R. 12461 will help reduce the need for costly new plants by requiring that state regulatory commissions institute cost effective techniques to reduce peak electricity loads. The Federal Power Commission would be required to develop power plant reliability standards, and the utilities would be required to develop quality control plans to increase the reliability of existing power plants. Finally, H.R. 12461 establishes a \$40 million grant assistance program for state regulatory commissions to improve their staffs and enable them to demonstrate effective rate structures.

Mr. Chairman, all across the nation citizens are protesting the present public utility rate structure and they are looking to Congress for relief. I feel the time has come to outlaw these present confiscatory residential rates, nationwide. I urge to the Subcommittee to act favorably on H.R. 12461.

Thank you.

COMMENTS OF GEORGIA POWER COMPANY

ON H.R. 12461

THE ELECTRIC UTILITY RATE REFORM

AND REGULATORY IMPROVEMENT ACT

Submitted to

The

Subcommittee on Energy and Power

Of The

House Committee on Interstate and Foreign Commerce

April 8, 1976

INTRODUCTION

The proponents of H.R. 12461, the "Electric Utility Rate Reform and Regulatory Improvement Act" ("the Act") believe that the Act will help hold down the cost of electricity and enhance its reliability. These are certainly desirable goals -- goals towards which Georgia Power Company ("Georgia Power" or "the Company"), other investor-owned utilities, and the State commissions which regulate them have devoted considerable time, money and effort. Unfortunately, H.R. 12461 will not, and cannot, accomplish the purposes for which it was introduced. At the very least, passage of the Act will undermine present efforts to achieve greater economy and reliability in the provision of electricity. It is more likely, however, that passage of the Act will result in higher prices to the consumer, a shortage of electricity in the 1980's, and the crippling of the investor-owned utility industry.

The Act consists of five Titles. Title I contains general provisions involving findings of fact, purposes of the legislation and definitions. Title II, entitled

"Utility Rate Reform," concerns retail sales of electricity, an area which has traditionally been regulated by State agencies such as the Georgia Public Service Commission ("GPSC"). Title II, among other things, dictates the procedures which a State commission must follow before approving an increase in rates, the items which a State commission can include in determining a utility's cost of service (and hence its revenue requirement) and the methods which a State commission must use in apportioning the revenue requirement among customer classes.

Title III, entitled "Economic Regulation of Bulk Power Supply," applies to wholesale sales of electricity. As with the provisions of Title II dealing with retail rates, the provisions of Title III limit the items which the Federal Power Commission ("FPC") may consider in determining a utility's cost of service. Title III goes beyond that, however, and authorizes a sweeping expansion of the FPC's jurisdiction, including the power to order a utility to sell plant to other utilities, including its competitors, to to wheel power, and to curtail wholesale and retail service proportionately. Title III also directs the FPC to establish

criteria governing the reliability of generation and transmission facilities.

Title IV, entitled "Financial Assistance to State Regulatory Authorities," provides short-term financial assistance to State regulatory agencies, subject to specific conditions with which the State commissions must comply before they qualify for funds.

Title V, entitled "Coordination of Planning and Siting of Bulk Power Facilities," directs utilities to assemble and disseminate information regarding their planning and construction programs, and directs the FPC to divide the country into "planning councils," which will coordinate and supervise the long-range planning of bulk power supply facilities in their respective areas.

The easiest way to understand H.R. 12461 is by dividing its provisions into two broad categories. The first category consists of those sections whose purpose is to affect the way -- both substantively and procedurally -- in which retail and wholesale rates are set by State commissions and by the FPC. The second category of sections attempts to restructure and further regulate the "bulk power industry"

-- that is, the planning, ownership and operation of large electric generating facilities and the transmission system necessary to move electricity from the generating facilities for the local distribution of that energy.

I.

PROVISIONS WHICH CONCERN

THE WAY RATES ARE DETERMINED

Most of H.R. 12461 deals with the general question of how commissions decide what constitutes a just and reasonable rate. Some sections of the Act concern only wholesale rates, which are regulated by the FPC; some concern only retail rates, which are regulated by State commissions; and some concern both types of rates. Some sections specify the procedures which must be followed before new rates may take effect. Others are more substantive. One group limits the items which a commission can include in a utility's cost of service for the purpose of establishing the number of dollars which a utility needs. Another group limits the ways in which State commissions can apportion the necessary number of dollars among different classes of customer. Finally,

Title IV provides financial assistance to State commissions, subject to certain considerations. The cumulative effect on a utility like Georgia Power of enacting these sections of the Act would be devastating.

A. Procedural Restrictions

Section 304 of the Act amends §205(e) of the Federal Power Act to forbid a utility to file a rate increase with the FPC so long as the utility has an earlier rate case pending before the FPC. This section of the Act ignores the inordinate amount of time required before the FPC finally decides a rate case. Repeated delays in the regulatory process are an administrative fact of life with which Georgia Power is all too familiar. For example, on May 26, 1970, the Company filed Rate Schedule "WR-6" with the FPC. Three years later the "WR-6" proceedings were still pending when, on April 30, 1973, the Company filed Rate Schedule "WR-7." In fact, it was not until June 17, 1975, over five years after "WR-6" was filed, that the FPC issued its final order regarding the "WR-6" and "WR-7" rates.

Meanwhile, on October 31, 1974, Georgia Power filed Rate Schedule "WR-8." The Commission initially ordered that hearings on "WR-8" begin on May 20, 1975. The Commission has subsequently ordered that hearings begin on August 19, 1975, September 10, 1975, December 2, 1975, February 24, 1976, March 16, 1976, and May 11, 1976. Each of the delays has been at the instance of either the Commission or its Staff. Indeed, there is pending before an Administrative Law Judge another Staff motion to defer the hearing date yet another time. Georgia Power has not been responsible for the repeated delays, yet §304 of the Act would penalize the Company for those delays by preventing it from filing for needed rate relief.

Of course, while a wholesale rate schedule languishes within the FPC the cost of providing wholesale service continues to increase. Fuel costs are an obvious and well-known example of this problem. Over 80% of the kilowatt-hours sold by Georgia Power is derived from coal, and during 1974 and 1975 the market price of low-sulphur coal increased 92%.

Similar increases have occurred in other cost categories. In 1972 the average cost of the Company's generating plant was \$113 per KW. By the end of 1975 the cost had increased almost 50%, to \$167 per KW, reflecting the sharp increase in the cost of new plant. A utility can realize no further economies of scale in the generation of electricity. Each new unit raises the average cost per kilowatt of capacity, and with it the necessary charges for depreciation. Georgia Power's first nuclear unit, Plant Hatch Unit No. 1, cost \$487 per KW. Plant Vogtle, a nuclear plant which the Company hopes will be in service beginning in 1983 and 1984, is estimated to cost \$953 per KW. The cost of coal fired plants has increased even more sharply, in large part due to environmental considerations. Thus, Units 3 and 4 of Plant Scherer, a large fossil plant planned for the early 1980's, are planned to cost approximately \$825 per KW.

The cost of the money required to fund new construction has gone up even faster than the cost of that construction. Georgia Power's embedded cost of debt has increased from 3.92% in 1965 to 7.93% by the end of 1975. The Company's cost of money has never been higher. In December, 1975,

Georgia Power sold \$100 million of 30-year bonds at a net annual cost to the Company of 11.95%. So long as the cost of the new capital needed to fund construction exceeds the cost of embedded capital Georgia Power's cost of doing business will continue to increase.

It is essential that a utility be able to increase its revenues in order to keep pace with increases in its costs. Each segment of a company's business, including the wholesale class of customer, must contribute its fair share towards defraying the increase in costs. It is unlikely that a State commission would permit a company to charge its retail customers for costs which are properly attributable to its wholesale customers. Yet those retail customers will inescapably suffer when declining earnings lead to higher interest expenses and a drastically curtailed construction program. For these reasons the regulatory scheme must be sufficiently flexible to permit utilities -- and their regulators -- to respond promptly when the circumstances require swift action.

Sections 203(b)(1) and 205(b)(1) also ignore this need for flexibility. Section 203(b)(1) prohibits state regulatory

commissions from allowing a rate increase to go into effect until the commission has held evidentiary hearings on the increase, unless the increase is placed into effect subject to refund. Section 205(b)(1) requires a state commission to consider, and make findings based upon, a veritable laundry list of data (listed in §203(c)(1)) before granting final approval to any rate increase.

These sections assume that revenues which are subject to refund are substitutable for revenues which are not subject to refund. To state the assumption is to discredit it. Common sense dictates that investors will not lend money on the strength of revenues which a utility could conceivably be forced to refund. Recent experience confirms this fact. In late 1974 Georgia Power was in a serious financial situation resulting from sharply higher fuel costs, declining sales, and the need to borrow and finance huge amounts of money to support its construction program. In December, 1974, Moody's Investor Service downgraded the Company's bonds from an "A" to a "Baa" rating. In January, 1975, Moody's withdrew its rating entirely, thereby effectively denying the Company access to the capital markets. Although the CPSC granted the

Company two temporary emergency rate increases, and although the Company had filed for a permanent rate increase, Moody's did not restore Georgia Power's "Baa" rating until after the permanent increase received the GPSC's final approval.

The 1974-1975 experience is vivid evidence of both the limited usefulness of revenues which are subject to refund and the necessity for swift and flexible regulatory response. When the GPSC awarded the Company the first emergency rate increase Georgia Power was within eight days of exhausting its available cash. H.R. 12461 would virtually eliminate the flexibility which the GPSC must have if it is to protect the interests of the public, because the Act would prevent the GPSC from authorizing a nonrefundable rate increase -- regardless of how obvious is the need or how inadequate the alternatives are -- without first conducting a full-blown rate case. Georgia Power made this same argument to the GPSC in December 1974, an argument which the GPSC found convincing:

When the application for permanent relief is filed in the next few days and when supporting testimony and exhibits are filed later, the

Staff may study these materials at its leisure and measure their worthiness against whatever standard it chooses. The emergency relief is needed to pay bills with right now,.... We can all afford the luxury of trying a traditional rate base case in February or March, but only if there is a surviving Applicant at that time. Docket No. 2657-U, Motion filed December 17, 1974.

It is ironic that an Act, one of the express purposes of which is "to strengthen State electric utility regulatory authorities" (§102(8)), should contain provisions which hamstring those authorities.

Title II also contains several sections dealing with intervention in, and review of, State regulatory proceedings. These provisions are guaranteed to turn any rate case into a three-ring circus, resulting in further, unnecessary delays in the rate-making process. Section 207(a) establishes within the Federal Energy Administration an Electric Utility Ratemaking Assistance Office whose Director is entitled to intervene as of right in any retail rate case. Section 208(a)(1) also permits any consumer or municipality to intervene as of right in any rate case to the extent that the proceeding affects an interest protected by Title II. There is no requirement that intervenors representing similar interests have a common legal representative. Section 208(a)(2) permits those parties who have intervened in a rate case

to obtain judicial review of the State commission's decision. If the intervenor is a State or Federal agency, §209(c) gives the Courts of Appeals jurisdiction to review the State commissions's decision. If the intervenor is a consumer, §209(d) directs the consumer to the State courts if the commission's decision is reviewable therein. This schizoid review process could easily result in two simultaneous actions for judicial review of a single GPSC decision -- one in the Superior Court of Fulton County and the other in the United States Court of Appeals for the Fifth Circuit -- resulting in unnecessary legal expenses and, more important, the possibility of conflicting decisions.

If an intervening consumer should "prevail" before either a commission or a court the utility must, pursuant to §203(b), reimburse the consumer for all costs incurred by the intervenor. Section 208(b)(1)(B) states that "an electric consumer shall be deemed to have prevailed in a proceeding if the State regulatory authority or court disapproved or substantially modified a rate proposed by an electric utility on grounds first raised by the electric consumer who alleged

that the rate did not comply with the one or more specific requirements of this title." There are several problems with §208(b) beyond the obvious fact that it authorizes a raid upon a company's treasury. First, it creates a race to the commission and to the courthouse, since reimbursement is owed only to the consumer who first raises the ground for attack. Second, §208(b) does not limit its largesse to those consumers who, but for the reimbursement, would be unable to intervene. In other words, compensation must be made, regardless of need. This part of the Act should be very well received by lawyers who represent industrial customers. Finally, reimbursement would be required in virtually every case in which a utility receives a smaller increase than it had requested, since one of the "specific requirements" of Title II is that rates "reflect the costs of providing electric service." If, for example, the utility requests a 14% return on equity and the commission decides that the cost of equity capital is only 12%, rates predicated on the higher return would not "reflect the costs of providing electric service," and the first intervenor who so alleges would have to be reimbursed. Of course, the money

needed to reimburse the successful customers -- most likely the industrial class of customers, since they are the most active of the intervenors before the GPSC -- will ultimately be paid for by the other customer classes in the form of higher rates.

As with so many other sections of the Act, the marginal benefits which could conceivably flow from these intervention and review provisions are insignificant. The Act apparently assumes that intervention will not occur unless there are provisions in the Act permitting and encouraging it. This assumption is mistaken. The GPSC, for example, has traditionally applied liberal standards in allowing intervention, and there has been no dearth of well-represented intervenors in Georgia Power's recent retail rate cases. In addition, the Georgia General Assembly has created the office of Consumers' Utility Counsel, who is entitled to intervene in any case before the GPSC (Ga. Code §93-302(A)). Surely, the Consumers' Utility Counsel and those consumer groups which have intervened in the past in Georgia Power's rate cases (not to mention the GPSC itself and its staff) are capable of representing the interests of the Company's

customers. There is simply no need for the kind of expensive giveaway contained in the Act. As with any proposal which raises a company's cost of doing business, the expense is ultimately borne by the ratepayers.

Section 308 attempts to encourage intervention before the FPC in much the same way that §§207 and 208 attempt to foster more intervention before State commissions. Section 308 establishes within the FPC an office of Public Counsel whose Director is entitled to intervene in, and seek judicial review of, any proceeding before the FPC. Section 308 also authorizes the FPC to subsidize "indigent" intervenors.

Again, the need for these provisions is less than obvious. Under present FPC practice the Commission's Staff represents the interests of the consuming public, hence there is no need for the office which the Act would establish. The interests of the ultimate consumer are also represented by a utility's wholesale customers, who are, at least in Georgia Power's case, represented by lawyers and consultants who specialize in representing public systems before the FPC.

B. Restrictions on Items Which Can Be Included in a
Utility's Cost of Service

Passage of the Act would limit or eliminate a utility's ability to recover increased fuel costs, include construction work in progress in rate base, and include advertising as an item of expense. These restrictions ignore the very real problems which utilities must face, and more than any other part of the Act would frustrate the effort to assure a reliable and abundant supply of energy in the future.

Section 203(b) and Section 305 of the Act limit the recovery of increased fuel expense under retail and wholesale fuel adjustment clauses to 85% of the increase in fuel costs above 105% of base fuel costs. In other words, a company could not begin to recover its increased fuel costs until those costs had already increased 5%, and even then recovery would be limited to 85% of any further increase. No recovery would be permitted if the fuel costs are attributable to electricity purchased from an affiliated company.

In order to understand the crippling impact which these provisions would have on a company it is necessary to place them in perspective. Fuel expense is the major

operating cost of a utility today. In 1975 67% of Georgia Power's total operating and maintenance expenses were represented by fuel and economy power purchased from the other operating subsidiaries of The Southern Company (i.e., energy which could be generated at less cost by others than by Georgia Power itself). In view of the significance of fuel costs, and of the recent increases in fuel costs, it is imperative that Georgia Power be able to recover those costs promptly and completely. Had the proposed 85% limitation been in effect during the period from July, 1974, to February, 1976, Georgia Power would have lost over \$59 million of revenue. Almost \$15 million of that amount would have been lost during the last half of 1974. Had that loss in fact occurred, Georgia Power would not have been on the brink of insolvency; Georgia Power would have been insolvent.

The debilitating impact which these provisions of the Act would have is compounded by the prohibition contained in §304 against having more than one rate case pending before the FPC. No matter how large the gap grows between a company's fuel costs and the amount it could collect under its fuel adjustment clause, the company would not be able to raise

its base fuel expense until the FPC has finally decided the pending case. Since 23% of the energy generated by Georgia Power is sold to wholesale customers, the combined effect of §§304 and 305 would be crushing.

Enactment of §§203(b) and 305 would necessarily increase the cost of electricity to consumers in Georgia. First, Georgia Power would be unable to charge its customers for the increased cost of the economy energy it purchases from its affiliates in Alabama, Florida and Mississippi, even though the affiliates are able to generate this energy at less cost than the Company. In 1975, the average cost of the power purchased from Georgia Power's affiliates was 12.201 mills per kwh. During the same period it would have cost Georgia Power 29.450 mills per kwh to replace that power from its own combustion turbines. That is a saving of as much as 1.7 cents per kwh, a saving which benefits both the Company and the consumer. In 1976, Georgia Power estimates that its net transactions in capacity and energy in 1976 with its affiliates and with nonassociated utilities will result in a reduction of power production expense by over \$53 million. Under H.R. 12461 most of this saving would be lost.

Second, §305 requires the FPC to gather information from utilities regarding their fuel acquisition practices and to make this information public. Georgia Power does not object to providing regulatory commissions with information about its fuel procurement policies. Indeed, the Company provides that information on request to the GPSC and the FPC. However, that information is confidential, and must remain so. Public disclosure of the terms and prices of fuel contracts is the last thing the Congress should do if it wants to hold down the cost of fuel, because once Georgia Power's coal suppliers learn the prices which the Company pays on its various contracts, the Company has lost whatever bargaining advantage it once had. This is the reason why Georgia Power has requested that the FPC, the FTC, and the GPSC not divulge the terms on which the Company purchases coal.

Whatever the Congressional purpose would be in restricting Georgia Power's ability to recover its fuel costs, it is clear that the methods by which the Act seeks to carry out that purpose are counterproductive. They are also unnecessary. Georgia Power's fuel costs and fuel acquisition practices

are under constant scrutiny by both the FPC and the GPSC. Special audits have been performed by the FPC and by the FTC. The Company is not so stupid as to jeopardize its credibility with the GPSC and the FPC by permitting fuel costs to increase unnecessarily.

Georgia Power cannot help but infer from the Act that its proponents believe that utilities are somehow responsible for increased fuel costs, and that as a result some incentive is required to encourage utilities to "resist" higher fuel prices. That belief has no basis in fact. Recently, the President's Council on Wage and Price Stability issued A Study of Coal Prices. According to that study, the price of coal has not behaved differently from prices of other competing fuels. For example, the study found that between September 1973 and July 1975 the price of intrastate natural gas (i.e., unregulated natural gas) sold to utilities in Texas increased almost 250%, and the price of uranium increased 200%. The study also found that utilities with fuel adjustment clauses responded to the increased costs in same manner as did non-utility companies which had no fuel adjustment clauses. Utilities already have incentives

to minimize their fuel costs. First, so long as the recovery under a fuel adjustment clause is based on the average price of coal over a past period of time, the utility's recovery of increases in its fuel costs is delayed. Second, even if a utility uses a prospective fuel clause, the utility's need for working capital attributable to fuel inventories will increase as the cost of fuel increases.

Section 203(c) prohibits a utility from including more than 2/3 of its construction work in progress ("CWIP") in the rate base used to compute its retail cost of service. Section 306 prohibits the inclusion of any CWIP in the rate base used to compute the wholesale cost of service. These two sections of the Act ignore the pressing need to build new generating plant and the financial pressures which a large construction program imposes on a utility. CWIP, as its name implies, represents the capital which a utility has invested in plant which will provide service sometime in the future. Much -- if not most -- of the capital needed to fund a construction program must be raised in the capital markets. In 1975 only 28% of the funds used in Georgia Power's construction program were generated from internal sources. The

money which the Company must borrow has a cost: interest must be paid on bonds, and dividends must be paid on preferred and common stock. Interest and dividends must be paid in cash, but unless CWIP is included in rate base the cash needed to service the capital invested in CWIP must come from some other source. If CWIP is excluded from rate base, the Company must raise more money in the capital markets -- in effect, borrowing the money to pay interest and dividends on the funds tied up in construction.

Moreover, exclusion of CWIP from rate base hampers a company in its effort to raise capital. Although the cost of money used in construction is capitalized and treated as income for accounting purposes (referred to as "AFUDC"), the inescapable fact is that neither investors nor the SEC consider AFUDC to be the equivalent of cash. They are correct; \$100 million of AFUDC and a dime will buy a 10-cent cup of coffee, if you are lucky enough to find one. Investors discount AFUDC when they decide whether to invest capital in a company because they realize that AFUDC cannot be used to pay interest and dividends. It is precisely for this reason that the SEC has limited the

amount of AFUDC which companies subject to the Public Utility Holding Company Act can use in computing their bond coverages (i.e., the ratio between income and interest below which a utility may not issue any more long-term debt) to approximately 10% of operating income. As a result of this restriction, \$23.7 million of AFUDC could not be used to compute the coverages on Georgia Power's December, 1975, sale of \$100 million of first mortgage bonds.

The lower a company's coverages become, the higher that company's cost of capital -- and consequently its cost of service -- becomes. Once coverages fall below the minimum levels specified in the charter or mortgage indenture, the company is unable to issue new preferred stock or bonds. When that situation occurs, the construction program must be curtailed. Georgia Power is familiar with this scenario, for it happened to the Company during late 1974 and early 1975. In the last quarter of 1974 Georgia Power was unable to issue long-term debt or preferred stock. Drastic cuts were made in the Company's construction program, including over \$1.0 billion from planned 1975-1977 expenditures. As a result of that reduction and subsequent reductions in the

Company's construction program the Company forecasts that it will have only 11% reserves beginning in 1981, a level well below the 20% which the FPC has recommended for companies with Georgia Power's characteristics.

It is significant that the GPSC, which is more familiar with Georgia Power's capital requirements than is any other regulatory or administrative body, permits the Company to include CWIP in rate base. In so ruling, the GPSC has stated:

This commission is a pragmatic commission which must look after the interest of the people of Georgia. Following the course of action set forth in this order produces results which this commission believes is in the public interest. Re Georgia Power Co., 9 P.U.R. 4th 381, 387 (1975).

The FPC also appears to be leaning towards the inclusion of CWIP in rate base. In Docket No. RM75-13 the FPC has proposed a rule which would, if adopted, require the inclusion of CWIP in rate base. The FPC apparently recognizes that inclusion of CWIP in rate base is infinitely preferable to the shortages which would result from the exclusion of CWIP from rate base. In addition, Georgia Power believes that the inclusion of CWIP in rate base will ultimately result

in lower, not higher, costs to the consumer. Inclusion of CWIP in rate base results in lower capital costs today. Inclusion of CWIP in rate base will also result in smaller depreciation charges in the future once plant goes into service. Capitalized AFUDC constitutes an increasingly large proportion of depreciation charges. For example, Unit No. 1 of Georgia Power's Plant Hatch, which was placed into service at the end of 1975, cost \$487 per KW, of which \$136 per KW, or 28%, represents AFUDC. As the embedded cost of capital rises, Georgia Power will be entitled to earn an increasingly higher rate of return on previously-capitalized AFUDC. Including CWIP in rate base would protect ratepayers from this effect of the apparently inevitable rise in embedded costs.

In any event, the wisdom of treating all utilities alike, no matter how large or small their construction programs are, is highly questionable. H.R. 12461 would eliminate the desirable flexibility which State commissions and the FPC now have to tailor the rate base to fit the capital requirements of the utilities subject to their jurisdictions. Excluding CWIP from rate base would also contravene the

intent of those parts of H.R. 12461 which are designed to enhance the reliability of service. The simple truth is that new capacity costs money, and someone has to pay for it. If investors are unwilling to provide that money unless CWIP is included in rate base, the Congress and the regulators are left with little choice: either include CWIP in rate base or be prepared for shortages.

Finally, §203(a)(5) states that the cost of political, promotional or institutional advertising (§201(4)-(7)) "may not be an operating expense of that utility for purposes of rate determination." Advertising is hardly the major expense which fuel is; Georgia Power spends less than three mills out of every dollar of revenue on advertising. Nevertheless, the Company spent approximately \$834,326 on media advertising in 1975. None of this advertising encouraged people to use more electricity. On the contrary, much of it was designed to encourage the conservation of energy. The remainder sought to inform the people of Georgia about the challenges which the Company faces and what the Company is doing to meet those challenges. Surely consumers are entitled to know why the price of their electricity has increased, why

the cost of producing that electricity has increased, and how the Company proposes to minimize increases in cost.

Advertising is a utility's one consistent way to present facts to the public. Interfering with an advertising program by requiring the stockholders to finance it themselves cannot be done without sacrificing a well-informed public for one which is ill informed. One would think that this argument would be especially compelling in States like Georgia in which members of the regulatory commission are elected by the people. If citizens are to vote intelligently they must be aware of the problems with which the regulators and regulated companies must deal.

C. Restrictions on Allocating the Cost of Service Among Customers

Title II of the Act severely limits the discretion which State commissions have traditionally exercised in establishing rate for different classes of customers. Section 203(a)(1) requires that rates "be designed, to the maximum extent practicable, to reflect the costs of providing electric service" to each consumer or class of consumers.

Section 205 defines costs as "marginal costs," i.e., the change in total cost which results if additional capacity is added to meet demand at peak, additional kilowatt hours of electric energy are delivered to users, or additional consumers are served by the utility (§201(1)). Section 203 (a)(2) forbids a utility to use declining block rates unless the utility is able to demonstrate that the decrease in price reflects a decrease in marginal costs.

There are so many problems with the marginal cost provisions of the Act that it would be impractical to mention them all. Very little is known about how customers would respond to marginal cost pricing. In part this lack of knowledge is due to inexperience. Recent data may be affected by conservation induced by the recession, not by higher prices. Even if one could eliminate the effect of the recession on consumption it is too soon to tell whether the experience of the last two years understates the effects of conservation (if, for example, more than two years are required for consumers to alter their consumption habits) or overstates the effects of conservation (if, for example, consumers become accustomed to higher prices and return to their old

consumption patterns, much as automobile buyers are currently doing). In any event, most of the available data relates to energy use rather than peak load, although it is the latter that determines the capacity needed by a utility. There are a number of studies underway which are attempting to determine how consumers will react to marginal cost pricing. Perhaps the best known of these is the joint effort by the Electric Power Research Institute and the Edison Electric Institute for the National Association of Regulatory Utility Commissions. Many individual utilities are also conducting their own studies. Georgia Power, for example, is planning to ask the GPSC for permission to begin testing several experimental rate structures in order to determine how the Company's customers will respond to changes in their billing determinants.

Another reason why so little is known about the effects of marginal cost pricing is the inability to define marginal cost, a difficulty which is apparent in the Act itself. Section 201(1) contains three very different definitions of marginal cost, and each of those definitions could have variations of its own. The "correct" definition is not so

much a question of microeconomic theory as it is a question of purpose and practicality. For example, time-of-day metering is fine, so long as the meters don't cost the consumer more than the potential savings to him.

Once "the" marginal cost has been determined there remains the problem of measuring those costs. Costs may be very difficult to determine, especially when daily and seasonal cost fluctuations are taken into consideration. Furthermore, it is unlikely that "the" marginal cost could be used. Even within the residential class of customer there will be wide variations in the marginal cost of providing service. Marginal cost pricing theory would require "new" energy consumption to be priced higher than "old" energy consumption. A price structure such as that places an unfair burden upon people who move into new homes or a new area and upon poor people who desire to increase their energy consumption as their standard of living increases.

Even if one knew how to define marginal cost, how to identify it, and how consumers would respond to it, one would still need to ask whether the benefits are worth the costs, especially if customers are forced to make drastic

changes in their life-styles or patterns of usage because of the high price of peak energy. There is a big difference between asking a middle-class family to wait until 10:00 p.m. before turning on the dishwasher and asking a poor family to wait until 10:00 p.m. before turning on the television set.

The problems raised by marginal cost pricing are not insoluble. Their solution will, however, take time and the answer which is given by Vermont may be very different from the answer given by Georgia. It make no sense to force an untested idea upon the states before anyone, including the Congress, knows what the impact of that decision will be.

The Act's limitations on the use of declining block rates is somewhat mystifying. No utility -- and certainly not Georgia Power -- would use declining block rates if average cost did not decrease as consumption increases. The mere fact that one customer pays a lower rate per kilowatt hour than a second customer does not necessarily mean that the second customer is subsidizing the first, because the first customer may be a more "efficient" user of the

utility's capacity. Alternatively, the first customer may pay a relatively large amount for the first "block" of service (the price of which reflects primarily the capital costs of providing the capacity required by the customer) and a relatively small amount thereafter (the price of which reflects only the operating costs of supplying him with another kilowatt-hour of energy, since he has already paid for the capital cost attributable thereto). In this regard it must be remembered that Georgia Power's industrial customers, who are served at declining rates, make a proportionately greater contribution to the Company's income than do its residential customers, who are served during the summer at modified-inverted rates (i.e., the price per kilowatt-hour in the last block is higher than in the previous block). Consequently, if this Act becomes law, and the GPSC is required to set rates which "to the maximum extent practicable...reflect the costs of providing service" (§203(a)(1)), residential rates would probably increase the most.

Section 203(a)(3) of the Act establishes the maximum price which a utility can charge for a "subsistence quantity"

of energy, which is defined as the minimum amount of electricity needed for lighting and refrigeration. Under the Act, the price of this "subsistence quantity" of energy could not exceed the lowest charge per kilowatt-hour (excluding demand, capacity and customer charges) to any other customer. In effect, the price for the "subsistence quantity" of electricity would cover little more than the cost of fuel. According to figures published by the Department of Housing and Urban Development, the average three-bedroom dwelling requires 210 kwh per month for lighting, refrigeration and miscellaneous appliances, which is reasonable indication of the amount of energy affected by the Act. Obviously, those customers who use relatively little electricity would benefit from the proposal while relatively large users would have to subsidize the small users.

Redistributing income in this manner makes sense only if people who use a small amount of electricity are also poor. Numerous studies have shown that this assumption is incorrect. A recent study performed by Southern Services, Inc., an affiliate of Georgia Power, found that only 42%

of the poor people surveyed were also low-use customers. On the other hand, 31% of the low-use customers were not low-income customers. If the Congress really desires to help the poor it should not sanction a scheme whereby poor people who happen to use a lot of electricity subsidize rich people who do not use as much. Beyond that empirical point, however, the Congress should not attempt to convert the ratemaking process into a device for redistributing income, especially in an Act which recognizes that everyone loses when electricity is priced below its cost.

Section 204(a) of the Act states that a State commission shall require each utility subject to its jurisdiction to implement load management techniques which the State commission finds are "cost effective," i.e., the technique is likely to reduce maximum kilowatt demand and thereby result in long-run benefits which exceed the long-run costs associated with the technique (§204(b)(2)). This section of the Act is basically superfluous, since it does not require a company to do anything that it would not do on its own initiative. Both utilities and their regulators

are painfully aware of the costs which load growth and the concomitant need to build new capacity impose on a utility's customers and shareholders.

Georgia Power and the GPSC have been leaders in the load management field. In 1971 the Company pioneered the seasonal rate concept by filing retail rates which place a higher cost of energy consumed during the summer than during the winter. More recently, the Company has emphasized consumer education, especially the need for insulation, weather stripping, storm windows and efficient equipment. Georgia Power is also conducting several experimental programs to test the efficacy of various load management techniques. One piece of equipment under study at this time is the "ACDC" device designed to remove residential air conditioning loads from the system during the peak hours. The instrument, which is thermally controlled and activates at a set temperature, is designed to reduce residential air conditioning load. Results of test installations show that the units removed an average of 1.4 KW per customer from the 1975 peak load. The Company intends to test the time-of-day metering concept during 1976 in order to determine

whether that technique will work, and if so, whether the savings outweigh the enormous initial cost of the metering system itself. The GPSC is most interested in the Company's load management efforts, and has requested that the results be reported to the GPSC.

Georgia Power has faith in its load management program. Up to a point, load management can serve as a substitute for new capacity. The Company's current generation expansion plan forecasts that the load management program will reduce peak demand by 950 MW by 1983, resulting in substantial savings to the Company and its customers.

D. Financial Assistance to State Commissions

Title IV of the Act authorizes the Director of the Office of Electric Utility Ratemaking Assistance to make grants to State commissions to improve their staffs (§402), to establish programs which aid customers who intervene in rate proceedings (§403), and to develop innovative rate structures (§404). A total of \$40 million is authorized to be appropriated annually for these programs (§406). There are, however, several conditions attached to this

largesse, conditions which have no relationship to the purposes for which the funds would be used or to the rest of the Act. In order to qualify for any of the funds a State commission must hold evidentiary hearings on the collection and disposition of security deposits, on estimated billing procedures, and on the procedures followed when service is terminated, and adopt standards governing these practices. These standards must meet Federal standards prescribed by the Director of the Office of Electric Utility Ratemaking Assistance (§401(c)).

Since the Federal government will set the standards anyway, one may wonder why the State commissions must go through the charade of holding evidentiary hearings. The answer may lie in the recent decision of the Supreme Court in Jackson v. Metropolitan Edison Co., 419 U.S. 349 (1974). Jackson held that termination of service by a utility does not constitute State action, and therefore is not actionable under the Fourteenth Amendment to the Constitution, if the State commission has not expressly authorized the utility's termination procedures. Section 401(c) would, if enacted, turn termination of service for non-payment of bills into

State action and, most probably, bring it within the scope of the Fourteenth Amendment. This result would not benefit the overwhelming majority of a utility's customers, for it would require a utility to go through an expensive and time-consuming procedure before it could terminate service to customers who do not pay their bills.

Georgia Power's policies governing collection of security deposits and termination of service are designed to protect the Company's customers who do pay their bills. Bad debts are a cost of doing business which must ultimately be charged to a utility's customers, but by requiring customers to pay a security deposit (on which interest is paid by the Company) and by permitting the Company to stop serving customers who repeatedly fail to pay their bills Georgia Power is able to minimize this cost. There is no need for either evidentiary hearings or Federal standards in this area. Under present practice, most utilities -- including Georgia Power -- must file with their respective State commissions copies of their regulations governing electric service. These regulations are reviewed periodically by the commissions and their staffs, together with

whatever supporting data is requested. There is no evidence that this procedure has not adequately respected the interests of those customers who are either unable or unwilling to pay their electric bills and the interests of those customers who do pay their bills.

Three-quarters of the \$40 million authorized by Title IV would be used to improve the staffing of the State commissions. There is a special condition attached to this part of the Act. Under §402, no grant could be made unless the State commission agrees to institute a system for collecting fees from regulated utilities in an amount sufficient to enable the commission to maintain the additional staff made possible by the grant following the expiration of the grant. No one is fooled by this provision. It is just a carrot which the Act uses to induce State commissions to hold hearings on the topics specified in §401(c) of the Act. State commissions have the power to improve their staff capability if they believe it is necessary; a one-time grant from the Federal government will not affect their decision.

II.

PROVISIONS WHICH AFFECT BULK POWER SUPPLY

The other major concern of the Act is with the availability and reliability of bulk power and with the competition, or lack thereof, among bulk power suppliers. With respect to the former, the Act contains provisions concerning reliability standards, long-range planning of generation and transmission facilities and the siting of those facilities. With respect to the latter, the Act would require utilities to wheel power for other utilities and to sell generating plant to other utilities. Some of these provisions merely duplicate present practices; some are positively counterproductive; none of them will help the consumer.

A. Provisions Concerning the Reliability of Service

Section 309 of the Act directs the FPC to establish minimum standards for utility reliability. "Such standards shall include such requirements as the [FPC] determines are necessary to assure the reliability of supply of electric energy, and of bulk power facilities (and components thereof)."

(§309(a)). Each utility must then develop a quality control program incorporating "all economically and technologically feasible measures which will assure system reliability and the reliable operation of the bulk power generating facilities and other elements of such utility's service in order to minimize delays in completing the construction of facilities and to minimize breakdowns of major equipment." (§309(b)). The FPC must review and approve all such programs.

In evaluating this section it is important to realize that the benefits of quality control are evident to utilities and that utilities will implement those programs whose benefits exceed their costs. Georgia Power is in the process of designing such a program now. The Company has several incentives to enhance the reliability of its generating units. First, whenever a base-load unit is out of service the energy which would have been produced by that unit must be replaced by more costly energy. As a result, the Company's fuel costs would be higher than they otherwise would be, thereby tying up capital which could be used elsewhere in the Company. Second, unless the cost of repairing a unit is covered by a warranty from the manufacturer the Company's maintenance

and repair costs are increased without any offsetting increase in revenue. Finally, and most important, increased reliability permits the Company to operate with a lower margin of reserves, which in turn reduces the need to build new capacity.

There is, therefore, a serious question whether any Federal intervention in this area is necessary. It is clear, however, that the particular types of intervention contemplated by the Act will only hamper the effort to place units in service promptly and keep them in operation. There are as many "minimum" standards for reliability as there are types of units and manufacturers of units. Establishment of comprehensive reliability standards is bound to result in enormous amounts of detail and paperwork. It would also involve the FPC in the design of nuclear plants, an area in which it has no expertise and in which safety should be the paramount concern. The proposal would further increase the lead time required to build new units and the cost of those units. Neither of these developments would be in the public interest. New coal-fired generating units already cost almost as much as nuclear units, and require almost

as much time to build (7 years vs. 10 years).

Finally, the current problems with the reliability of nuclear plants and large fossil plants are primarily due to lack of experience. Nuclear units which go into service in the mid-1970's were designed in the mid-1960's; as experience with these units increases, so will their reliability. Similarly, the reliability problems in fossil plants are primarily in the new, larger units which have recently gone into service. As experience with these larger units grows steps will be taken to correct any design deficiencies. In other words, the problems associated with major breakdowns are probably only temporary, and will in time be solved, whether or not §309 becomes law.

Section 309 is primarily concerned with the provision of bulk power so far as it is affected by the reliability of plant in service. Sections 501 and 502 are primarily concerned with, respectively, the planning and siting of new bulk power facilities. Section 501(a) requires each utility which owns or expects to own generation or transmission facilities to file its long-range generation and transmission plans with the FPC. The information required

includes the size and type of each facility construction of which is expected to begin during the next 10 years, the load forecasts and methodology which justify the planned facilities (listed in §205(c)(1)(J)), the planned location of those facilities, including a description of the participation, if any, of environmental or land use agencies in the site selection process and a discussion of alternate sites considered and why they were not chosen. The utility must also make this information available to the public (§501(b)).

There is no mention of what the FPC or anyone else is supposed to do with the wealth of information provided under §501(a). Some of the data requested is virtually impossible to supply. For example, Georgia Power considers literally hundreds of alternative locations for new transmission lines. Most of the work is done by computer. Even if it were possible to trace the final decision back through the computer and the reams of paper it generates, there is little, if anything, to be gained by the exercise, even if one were to understand it. The probative value of the rest of the data is also questionable, since generation and transmission planning is in a constant state of flux;

facilities are added, deferred or cancelled as forecasts of load and financial capabilities change. Some units which have relatively short lead times may not be included in a 10-year plan, since they can be added at a later date if it appears that they will be needed. Conversely, some units with very long lead times will not be included in the plan, even though construction may have to start near the end of the 10-year period, since they would not go into service until well after the 10-year planning horizon. These caveats are well-known to the people who plan Georgia Power's system, as are the innumerable factors which can affect a plan.

On the other hand, to the extent that a plan accurately forecasts the future sites of generation and transmission facilities its public dissemination will increase the cost of land to the utility and the cost of service to its customers. Premature disclosure of the site for Plant Scherer, for example, caused land costs to increase from approximately \$300 an acre to \$1200 an acre. Publication would also invite harrassing litigation whose only purpose is to delay and, if possible, block construction of new facilities.

In short, some of the data required by §501 is useless; most of the rest is subject to change; and publication of plans which will not change will needlessly increase costs to the consumer and further delay the construction of necessary facilities.

One of the organizations which would receive the information collected pursuant to §501(a) is the area planning council created pursuant to §501(c). That subsection directs the Commission to divide the nation into geographic regions and to establish a planning council for each region. The voting members of the council would be the Governor of each State included in the area, the Chairman of the State commission of each State included in the area, a representative of the bulk power suppliers in each State in the area, and a representative of each Federal agency which functions as an electric utility in each area. The remaining electric utilities in the area would be non-voting members. The councils are supposed to review the long-range plans of each utility in the area, develop a long-range generation and transmission plan for the area, and submit that plan to the FPC, which in turn is supposed to review the plans and prepare an annual report to Congress.

There is no need for these area planning councils, not because area planning is not important -- it is -- but because utilities are already performing that function through the National Electric Reliability Council (NERC) and regional councils such as the Southeastern Electric Reliability Council (SERC), of which Georgia Power is a member. Membership in SERC is open to any utility which operates more than 25 MW of generating capacity and which is interconnected with other utilities in the SERC region. SERC's members include investor-owned utilities, cooperatives, and municipal systems in Virginia, the Carolinas, Georgia, Florida, Alabama and Mississippi, as well as TVA. SERC's sole concern is with the reliability and adequacy of electric service in its region. It has established reliability standards the purpose of which is to avoid major outages. Information gathered by SERC and the other regional councils is collected by NERC, which publishes an annual "Review of Overall Reliability and Adequacy of the North American Bulk Power Systems." There is nothing to be gained by replacing these voluntary industry councils with a new level of bureaucracy.

Section 502(a) of the Act is an attempt to consolidate and expedite Federal review of new generation and transmission facilities. The Act directs the Chairman of the FPC to develop a single, composite application which would be used by all Federal agencies having jurisdiction over construction of the proposed facility. The agencies are expected to review and act upon the application with 18 months, although the Chairman may grant extensions. Construction may not begin until all necessary Federal approvals have been obtained. This is not a "one stop" siting bill; it is a "one more stop" siting bill which would further increase the time it takes to plan and construct new facilities.

Under §502 a utility would have to complete its planning process, including all environmental studies, at least 18 months before it intends to start construction. Presumably it thereafter simply waits around while the review process takes place. Furthermore, even before it submits the composite application a company must solve a problem created by the proposal: often a company will not know what to ask

of agency X until it knows what conditions agency Y is going to attach to its approval. For example, before a utility can approach the Corps of Engineers about the discharge of water from a nuclear plant the utility must first know how much of a discharge the NRC will permit. The only practical solution to this dilemma created by the composite application provision of §502 is to approach the various agencies informally in advance and, in effect, work out a satisfactory arrangement before the 18-month review process begins. Obviously, this increases the necessary lead times even more, which is the opposite of the result intended by the Act.

B. Competition in the Bulk Power Industry

One of the purposes of the Act is "to foster increased use of competition as a complement to existing regulation." (§102(9)). The Act gives the FPC jurisdiction to consider charges of unfair competition, to order utilities to make capacity available to other utilities in the planning areas established under §501(c), to order utilities to wheel power, and to order utilities to curtail retail service,

Section 307 of the Act amends §205 of the Federal Power Act to prohibit a utility from "engaging in any unfair method of competition" or from using any rate schedule "which would result in an unfair method of competition." This section looks innocuous enough, but it is, in fact, an attempt to further intrude upon the jurisdiction of State commissions. Many State commissions attempt to keep industrial rates as low as possible in order to attract business and industry to their states. If the utility is to earn a just and reasonable rate of return on the retail part of its business, residential or commercial customers must pay slightly higher rates than they otherwise would. The decision to adjust retail rates in this manner is entirely within the discretion of the State commissions. Wholesale rates, on the other hand, cannot be altered in this manner. The municipality or cooperative pays rates based on a just and reasonable overall rate of return; it is then up to the municipality or cooperative to decide how much to charge each of its customer classes. Recently wholesale customers have tried to allege that wholesale rates which are otherwise just and reasonable are in fact unjust

and unreasonable because the wholesale customers are "unable" to compete for industrial sales, and therefore the utility is engaging in an unfair method of competition. The FPC has repeatedly stated that it does not have jurisdiction to consider that type of charge. The FPC takes the position that a rate which reflects costs is a just and reasonable rate. The United States Court of Appeals for the District of Columbia Circuit has disagreed with the FPC. Conway, et al. v. FPC, 510 F.2d 1264 (1975), but the Supreme Court has granted certiorari in the case and will decide the question.

This "unfair competition" argument is pure sophistry. If wholesale customers expect to receive service they should expect to pay for the costs of that service. It is bad enough that taxes attributable to retail customers are used to subsidize service to municipal and cooperative customers. There is no need to compound the inequity by asking retail customers to increase that subsidy even more. In this regard it should be remembered that municipal and cooperative systems also receive power at low rates from Federal hydroelectric projects and have access to low-

interest capital in the form of long-term debt the interest on which is either exempt from taxation or guaranteed by the Federal government.

Section 301 of the Act requires a utility to make capacity (i.e., generating units) available to other utilities in its planning area "on such basis as the [FPC] establishes to be fair, reasonable, and nondiscriminatory." In other words, if a municipality wants to acquire 0.34% of a new plant, the company has no choice but to make the capacity available. The company does not even have a choice as to how the capacity is to be made available, when payment would be made or in what amounts. In effect, the utility would be conscripted to build plant for its customers and competitors.

There is an obvious reluctance on the part of a company to help its competitors. There are, however, other objections to this section of the Act. First, a utility plans its system to serve its service area, not the service areas of those utilities with which it is interconnected and coordinated. Georgia Power builds plant to meet the needs of the people of Georgia, not of Florida or Alabama

or of any other State which might be included in its "planning council" area. Second, §301 permits the FPC to "bail-out" those utilities which fail or refuse to plan their systems properly at the expense of those utilities -- and ultimately their customers -- which have made adequate investment in new facilities. Third, utilities are already engaging in voluntary joint ventures. Georgia Power has been the leading investor-owned utility in this developing area. The Company has already sold 30% of the Hatch nuclear plant to Oglethorpe EMC, has agreed to sell Oglethorpe 30% of Plant Wansley, and has offered to sell Oglethorpe 30% of Plant Vogtle and Plant Scherer. The Company is also negotiating with its municipal customers in an attempt to sell them substantial interests in the same plants. The municipals and the cooperatives have both announced their intention to become self-sufficient in generation and Georgia Power is assisting them in this endeavor. This does not mean, however, that the Company would want to engage in similar ventures with other utilities, or even that it would want to continue to participate in joint ventures with its present customers once they have become self-sufficient.

Ironically, enactment of §301 would only serve to retard the self-sufficiency of municipal and cooperative systems by removing one of the incentives for small cities and cooperatives to join together and make the necessary investment in new capacity.

Section 302, which authorizes the FPC to order a utility to wheel (i.e., carry over its transmission system) energy from one utility to another, is another example of the way in which the Act would require a utility to do something under any and all circumstances which it already does voluntarily under appropriate circumstances. Georgia Power, for example, has an Integrated Transmission System Agreement with Oglethorpe EMC, whereby each party owns part of the transmission system in Georgia and carries the load of the other. Both parties -- and their customers -- benefit from this arrangement. The Company is willing to negotiate with other utilities about "wheeling" arrangements if the Company receives compensation for the use of its facilities and if it has capacity available. The Company is not willing to wheel power if to do so would overload its lines and thereby threaten the reliability of its system.

Section 302 also permits the FPC to order a utility to sell energy to another utility, whether or not such a sale is in the interest of the seller or its other customers. A utility which decides that it no longer desires to provide wholesale service could be required to continue wholesale service, no matter how detrimental the continuance of service may be to its retail customers or how remiss the wholesale customer has been in failing to arrange for an alternative source of supply. In the event of a shortage of energy in a utility's service area, §303 permits the FPC to order the utility "to accommodate such deficiency in a manner which affects the retail customers of the utility and the retail customers of the utility's wholesale customers in an equal and nondiscriminatory manner...." In other words, the FPC may order a utility to curtail its retail customers to the same extent it curtails its wholesale customers, even though the latter may have had the ability to fulfill their own needs if they had made the necessary investment, and even though the latter may have access to Federal hydroelectric power.

III.

THE IMPACT OF THE ACT

Considered separately, the various provisions of the Act are bad enough; taken together, they are a blueprint for disaster.

First, the Act destroys the traditional independence of State regulatory commissions. The Act dictates to the States the procedures they must follow in setting rates, the costs they are permitted to consider, and the techniques they must use in establishing rates for different classes of customer. For good measure, the Act creates a Federal policeman to make sure that the State commissions obey the law. The Act offers the State commissions limited financial assistance, but only at the cost of further adherence to Federal standards. Finally, the Act interferes with a State's ability to use rate structure for the purpose of promoting growth by penalizing utilities whose industrial rates are set at lower levels for that purpose.

Second, the Act imposes on the States an untried method of allocating costs. The benefits and costs of marginal cost pricing are known (if they are known at all)

only in theory. No one knows how that theory should be transferred from the textbooks into practice, nor how consumers will respond to prices based on marginal costs, nor what hardships marginal cost pricing will impose on different classes of customers. In a very real sense, the Act plays with people's lives. Indeed, if the proponents of the Act are so convinced in the desirability of marginal cost pricing, why did they specifically limit its use to retail customers? (§202). Surely the theory applies equally to wholesale customers, yet wholesale sales are not affected. This is a particularly glaring omission when one realizes that the REA cooperatives are growing much faster than is the retail segment of most companies' business.

Third, the Act does not begin to address the problems which utilities face in assuring an adequate and reliable supply of energy in the future. The Act places all its faith in the magic of marginal cost pricing and load management. The usefulness of the former has yet to be demonstrated, yet the Act expects utilities to base their construction programs on the assumption that marginal cost pricing will

achieve the desired results. What if that assumption proves to be unfounded? By then it will be too late. It requires 10 years to build a nuclear plant, 7 years to build a fossil plant. If those plants are not started today they will not be available in the early- and mid-1980's. Load management is a substitute for new capacity, but only up to a point. A customer may be induced to purchase a more efficient refrigerator, but he cannot be induced to do without refrigeration altogether. Georgia Power plans to use load management to reduce its need for capacity, but even with load management the Company's reserves will be only 11%-12% by the early 1980's.

Fourth, if the nation expects to have enough energy in the future there is no alternative but to invest the money required. There are no inexpensive answers to the problem; utilities need enormous amounts of capital. During the 1976-1978 period Georgia Power expects to spend \$1.56 billion on its construction program. Approximately 70% of that must come from sources outside the Company. Yet despite this enormous need for capital, the Act goes out of its way to drain revenues away from utilities. The Act limits or

forbids the inclusion of construction work in progress in rate base; prevents utilities from fully recovering increases in fuel costs, and prevents utilities from seeking necessary rate relief from the FPC. The Act ignores the financial and economic constraints within which a utility must live. Instead of ignoring these facts, the Congress should recognize them and assist utilities in fulfilling their public responsibilities.

Fifth, the Act ignores the incentives which encourage utilities to keep their costs at a minimum. No utility wants to build new plant, or incur higher fuel costs, or build and maintain unreliable units. Georgia Power, the GPSC, other utilities and other commissions are working on many fronts to reduce the cost of electricity. These include marginal cost studies, load management studies, audits of fuel procurement practices, quality control programs, load forecasts, and voluntary reliability councils. Imposition of Federal "standards" in these areas would only serve to impede these activities by imposing uniform standards on essentially dissimilar situations, by creating another level of bureaucracy which further ossifies these programs and

delays their ultimate solution, and by directing people's efforts into filling out unnecessary forms and away from the underlying problems. The present institutional structure is perfectly capable of handling the situation, provided the Federal government does not get in the way.

Sixth, the Act favors a utility's wholesale customers at the expense of a utility's retail customers. Retail customers are subject to marginal cost pricing, but not wholesale customers. Indeed, many, if not most, of the customers of wholesale customers are not subject to the marginal cost pricing provisions of the Act. Under §202 of the Act, retail sales by wholesale customers are exempt from the marginal cost requirements if annual sales are less than 200 million kilowatt hours. Under this standard, 45 out of the 50 municipal systems in Georgia would be exempt; so would 31 of the 39 REA cooperatives supplied by Georgia Power. Exempt businesses would be at a significant competitive advantage compared to non-exempt businesses. One might ask why there should be a loophole of this magnitude in the Act, one of the purposes of which is "to establish national minimum standards for electric

ratemaking in order to assure that States which implement rate reforms are not placed at a competitive economic disadvantage by reason of the failure of other States to implement such reforms...." (§102(4))

Seventh, the Act places a disproportionate share of the burden of new construction on retail customers. No CWIP is permitted in the wholesale rate base, although 66% would be permitted in the retail rate base. Retail customers would also subsidize wholesale customers to the extent that wholesale customers do not assume their share of all the costs associated with the capacity the utility has built for them and which they acquire pursuant to §301. Wholesale customers are also able to decide whether or not they even want to invest in new capacity, secure in the knowledge that if they miscalculate the FPC can require that the utility's retail customers be curtailed to make up for any shortfall (§303).

Eighth, the Act does not foster competition -- it destroys it. In the first place, the discriminatory manner in which §202 applies the marginal cost requirement will make it virtually impossible for a utility to price

industrial energy below the rates charged by exempt wholesale customers. Second, if the utility could somehow charge lower rates than its wholesale customer charged, the wholesale customer could fall back on the "unfair competition" provision of §307. Third, by requiring a utility to share capacity with its competitors the Act forces the utility to share its economies of scale with its competitors. However, the competitors, if they are municipalities or cooperatives, will have access to low-cost funds which are not available to the investor-owned utility. How is the latter to compete under those circumstances? The last thing this country needs is for the investor-owned utilities to go the way of the central cities so many of them serve. Yet these "competition" provisions will surely push them that way, as people and business locate in areas with lower energy prices.

Statement of the
National Oil Jobbers Council
to the
House Interstate and Foreign Commerce Committee
Subcommittee on Energy and Power
commenting on
H.R. 12461 (and others)
for a proposed
Electric Utility Rate Reform and Regulatory Act
April 15, 1976

The National Oil Jobbers Council is a federation of 42 state and regional trade associations representing thousands of independent small businessmen who market petroleum products. Members include gasoline and diesel fuel wholesalers, commissioned distributors of gasoline, gasoline reseller-retailers and a large number of retail fuel oil dealers. Members also wholesale or retail many other petroleum products, including kerosene, LP gas, aviation fuels and motor oils as well as residual fuel oil. Together our members market approximately 75 percent of the home heating oils and 25 percent of the gasoline sold in America under either their own private brand or the trademark of their supplier.

Oil heat marketers are in full support of cost-based electric rates. Electric utilities have often used promotional or other rates, which were not based on cost, to sell electricity for home heating. We feel obligated to point out that utilities can sell at rates which are below cost to electric heating customers only by charging rates which are higher than cost to the vast majority of their rate payers who are oil and natural gas heating customers. This monopolistic practice constitutes blatant price discrimination which implies that there are shortcomings, in this regard, in the regulatory process.

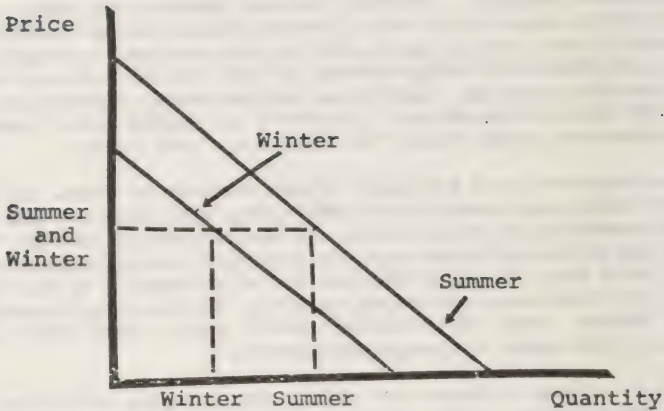
To require utilities to charge rates which are equal to cost, one first has to be able to determine those costs. The main purpose of this statement is to discuss certain aspects of the capacity costs. The solution to the problem of allocating capacity costs, advocated by some, is to assign all capacity costs to the rates for use in the season or month which has the high peak for the year. This solution is generally referred to as the sole peak responsibility method of allocating capacity costs.

A sole peak responsibility method is inappropriate for several reasons. First, it gives no consideration to the fact that in the long-run, most utilities face shifting peaks. Most utilities in the 1950's were winter peaking. Now many are summer peaking. In the future, it is likely that many of these utilities, by and large, may once again be winter peaking. Accordingly, an allocation method which recognizes only one peak, overlooks the fact that both summer and winter users create a need for additional capacity.

The second reason why a sole peak responsibility method is inappropriate rests on the basic fact that electricity prices influence peak demand. Consequently, the relationship between summer and winter peaks is influenced by the prices charged in the respective periods. A simple graphical example will help illustrate.

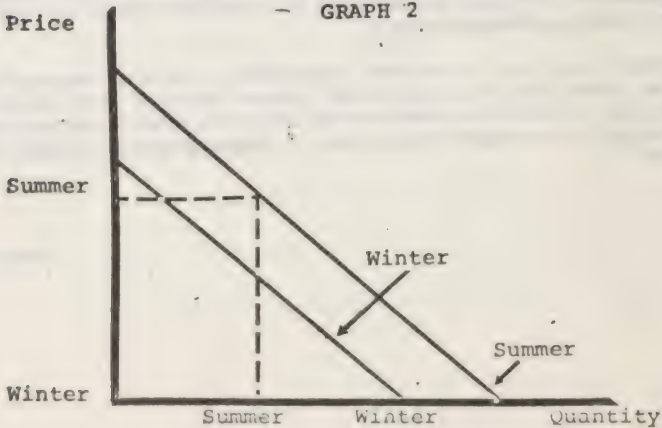
(over)

GRAPH 1



As indicated in Graph 1 above, when the price is the same in both seasons, the utility is summer peaking since the quantity demanded in the summer is greater than that demand in the winter.

GRAPH 2



Suppose in response to this situation the utility uses a summer peak responsibility method to justify setting different rates for summer and winter usage as shown in Graph 2. Under these rates, the utility is now winter peaking since now the quantity demanded in winter is greater than that of the summer. Consistent with the sole peak basis, shouldn't the utility now use a winter basis for setting rates? If it did, it would be justified in establishing rates where the price in the winter was higher than in the summer. For a large number of combinations of rates, such pricing would again make the utility summer peaking. The circularity here should not be surprising. It results from the fact that in using a sole peak responsibility method, one necessarily assumes that prices do not alter the relationship between peaks. Not only is this a tenuous assumption, but it encourages a utility to continually promote growth which, in the presence of a rational pricing system, would be unnecessary.

The third and most important reason for objecting to a sole peak responsibility method is found in economic theory. In meeting its winter and summer loads, a utility incurs what have been traditionally termed joint costs. When these conditions exist, economic theory tells us that the appropriate pricing solution is where the sum of the prices charged is equal to long-run joint marginal costs. This implies that prices should be set where the sum of the peak demands is equal to joint supply. At this point, the prices which should be charged to summer and winter users are dependent on the magnitude and elasticities of their respective demands. Making the reasonable assumption that both the magnitude and elasticities are non-zero quantities, the optimal pricing rule implies that both summer and winter users should pay capacity costs.

The National Oil Jobbers Council feels that, for the above reasons, rates which are based on costs must include capacity charges for more than the peak season. We think that this is important not only for the competitive aspects but also for equitable considerations for all electric consumers.

HUNTON & WILLIAMS

700 EAST MAIN STREET P. O. Box 1535

RICHMOND, VIRGINIA 23212

TELEPHONE (804) 649-3661

CABLE HUNTWAND

WASHINGTON, D. C. OFFICE

1730 PENNSYLVANIA AVE. N.W. 20002

SUITE 1060

TELEPHONE (202) 833-1680

FILE NO.

COMPETITION IN THE
ELECTRIC UTILITY INDUSTRY

Memorandum on the Antitrust Aspects of
H. R. 12461

I.

Introduction

The Electric Utility Rate Reform and Regulatory Improvement Act (H. R. 12461), if enacted, would effect sweeping changes in the regulation of electric utilities at the wholesale and retail levels. This Memorandum (1) discusses the ways in which the Act would enlarge the role of competition in the electric utility industry, (2) analyzes the ways in which the Act would affect the status of the industry with respect to the antitrust laws, and (3) recommends amendments to the Act in the light of that discussion and analysis. The suggestion of amendments does not necessarily imply a preference for this legislation, even if modified, over the regulation currently applicable to the

HUNTON & WILLIAMS

industry, including its consideration where appropriate of the desirability of competition.

II.

Competition and the Public Interest

A. Competition and Regulation in the Electric Utility Industry

One of the bill's major premises, namely, that "increased competition among electric utilities for wholesale and industrial sales can complement existing regulations providing protection for consumers of electric energy", is contained in § 101(10) of the Act. Moreover, § 102(9) states that one purpose of the Act is "to foster increased use of competition as a complement to existing regulation." Specifically, the Act would increase the feasibility of competition in the following ways.

(1) Section 301 would require utilities to make "new, increased or retired capacity in a bulk power facility available to any person engaged in the transmission or sale of electric energy within its planning area . . . on such basis as the Commission [the Federal Power Commission] establishes to be fair, reasonable and nondiscriminatory." Presumably, this

HUNTON & WILLIAMS

provision is intended to make it possible for smaller electric systems, which could not otherwise afford a large, efficient generating facility, to purchase only a fraction of such a facility and thereby obtain the economies of scale usually directly available only to larger systems.

(2) Section 302 would impose upon the FPC a duty to promote and encourage interconnection and coordination "for the purpose of assuring the goals set forth [in the Federal Power Act] and to assure maximum competitive opportunities for the purchase and sale of electric energy at wholesale at the lowest possible cost." At least one purpose of this provision seems to be to allow a retail system the opportunity to choose among several bulk suppliers, even though only one bulk supplier is interconnected with that retail system.

(3) Section 302(b) would give the Commission authority to order a utility to transmit energy for, provide transmission services or wheeling for, and pool or coordinate with the facilities of one or more other entities engaged in the transmission or sale of energy. In addition to considerations of reliability, this section could also serve to increase competition in bulk power sales.

(4) Section 307 would give the FPC authority to prohibit unfair methods of competition in the electric utility industry.

HUNTON & WILLIAMS

(5) Section 310 would direct the Commission to undertake a study, to be completed within two years after enactment of the Act, to determine whether increased competition is in the public interest and to ascertain means to foster increased competition in the electric utility industry. Neither § 301 nor any other provision of the bill contains a clue as to why alteration of the regulatory pattern should precede conclusion of the study, rather than the other -- and more logical -- way around.

(6) Section 311 would provide that nothing contained in Title III relieves any electric utility from the operation of the antitrust laws or restricts any authority the FPC may have to regulate unfair methods of competition.

Thus it is clear that, in addition to multiplying regulation of an industry that is already extensively regulated at the federal, state, and local levels of government, the Act strives to enhance competition in that industry. In doing so, the Act seems to rest on two important assumptions -- (1) that competition is necessary in the electric utility industry as a complement to regulation, and (2) that competition in the industry is desirable in the public interest. In view of the vigor of the electric utility industry, which is vital to the economic health of the nation, these assumptions underlying so drastic a change as would be produced

HUNTON & WILLIAMS

by H. R. 12461 should be tested rigorously, preferably before enactment of the legislation.*

(1) Is Competition Necessary?

A substantial number of the policy purposes of regulation are either parallel to or identical with those of antitrust. The antitrust laws seek to eliminate monopoly profits by enhancing competition and promoting entry into the market. Because competition has been found to be infeasible in the electric utility industry, however, regulation restrains entry. At the same time, regulators closely supervise utility rates so that electric utilities earn no more than a fair rate of return. The antitrust aim of eliminating monopoly profits is thus also accomplished by regulation.

Antitrust also depends upon competition to promote efficiency. Regulation, in its limitation of allowable expenses and investments to those found prudent, promotes efficiency in service to the customer. Indeed, federal and state licensing and certification proceedings for major investments promote efficient allocation of resources by requiring advance economic justification.

* As mentioned above, § 310 of the Act would authorize a study to determine whether increased competition is in the public interest. Yet the other provisions of the Act are effective upon enactment prior to this basic policy determination.

HUNTON & WILLIAMS

Just as antitrust seeks to eliminate unjustified price discrimination, so too does regulation in mandating reasonable and equitable rates to comparable customers.

Finally, where antitrust relies upon competition to provide dissatisfied consumers with recourse to alternative sources of supply, regulation performs the same function by making available the processes of regulatory agencies for the handling and rectification of consumer complaints.

Thus, it seems anomalous to create both regulation and competition in the electric utility industry. Regulation is meant to perform those functions antitrust normally expects competition to perform. In addition, the antitrust laws were enacted to deal with the replacement of competition with unregulated private control over prices and terms of sale, not to penalize governmentally sanctioned and regulated public utility monopoly. If regulation is for some reason inadequate, the remedy is to improve the quality of regulation, not create an overlapping and conflicting regime of economic rules in this unique industry.

(2) Is Competition Desirable?

Title III seems to assume that competition in the electric utility industry advances the public interest. This assumption prompts two thoughts.

HUNTON & WILLIAMS

First, competition -- in its proper perspective in this industry -- is already considered in the regulatory process as a component of "the public interest."* The best judgment as to competition's proper role is made by expert regulators, familiar with the complexity of the industry's technology and economics. Legislation such as H. R. 12461, mandating an inflated and inflexible role for competition in this industry is, therefore, not really appropriate given the current state of the law defining the "public interest" standard.

Moreover, the assumption that competition is desirable ignores the underlying premise of all regulation of electric utilities -- that the utility industry possesses technical characteristics leading to monopoly or other ineffective forms of competition. First, electric utilities inevitably must invest huge quantities of capital in long-lived and inflexible facilities directly connected to consumers. Thus, direct competition for the patronage of given consumers would require costly facility duplication and therefore impose on society excessive and unnecessary capital costs of a magnitude that generally has been considered unacceptable. Rather than the lower prices assumed from the competitive process, higher and higher rates would inevitably result.

* Gulf States Utilities Co. v. Federal Power Commission, 411 U.S. 747 (1973); See American World Airways, Inc. v. United States, 371 U.S. 296 (1963); Federal Communications Commission v. RCA Communications, Inc., 366 U.S. 86 (1953).

HUNTON & WILLIAMS

Second, electric utility operations are characterized by the existence of substantial economies of scale -- that is, by declining costs as the scale of operation increases at any point in time. Thus, a single large electric utility occupying a given market area generally can render service at significantly lower cost than could several smaller utilities operating in the same area.

Given these cost characteristics, in the absence of franchises or other regulatory restrictions, one firm would tend naturally to expand by offering lower prices, thus inducing growth in the size and density of the market served and thereby achieving even lower costs. The end result of such an uninhibited process would be a market occupied by only one utility -- hence the term "natural monopoly."

Direct competition among electric utilities has long been considered economically wasteful and thus undesirable. Indeed, in most states competition at the distribution level is prohibited by statute or limited by regulatory policy. Because competition would result in costly, inefficient, and unnecessary capital investment, with resulting higher cost to consumers, government has approved geographic monopolies.

For these reasons, serious questions are raised whether enhancement of competition is consistent with the broader

HUNTON & WILLIAMS

public interest purposes of the Act. These, as stated in § 102, include the promotion of more efficient use of scarce capital and energy resources, encouragement of maximum effective use of electric transmission facilities, encouragement of conservation of electric energy by all users, and avoidance of construction of unnecessary electric generating and transmission facilities. In addition, the encouragement of competition may not be consistent with the stated policy, goals of the Federal Power Act -- including assurance of "an abundant supply of electric energy throughout the United States with the greatest possible economy" and the avoidance of impairment of a utility's ability to render adequate service to its customers.

The Act contains an odd, cart-before-horse provision directing the FPC to undertake a study to determine whether such competition would in fact serve the public interest, but the study would be completed two years after the Act becomes law. As appropriate as study and investigation are in this complex area, they should surely precede legislative action, not follow it. As crucial as electric power is to the nation's needs, unbridled and potentially destructive competition should not be intruded into the electric utility industry until after the Commission has completed its study. Only then will the wisdom,

HUNTON & WILLIAMS

or lack thereof, of increasing competition in the industry be apparent.

A. Emphasis on Competition -- the Legal Implications

(1) Unfair Methods of Competition

Section 307 of the Act would authorize the FPC to determine, on its own initiative or upon complaint, that a public utility is engaging in an unfair method of competition or that the utility's contract, agreement, tariff, or schedule on file would result in an unfair method of competition. Upon making such determination, the Commission could issue an order prohibiting the unfair method of competition or reject the particular filing.

Unfortunately, the term "unfair method of competition" is left undefined in the Act. Neither a general fairness standard nor the jurisprudence inherited from interpretations of § 5 of the Federal Trade Commission Act, 15 U.S.C. § 45(a)(1), would necessarily be synonymous with the broader public interest standard of the Federal Power Act, nor appropriate in this industry. For instance, decisions by the FTC under the Robinson-Patman Act, and therefore even more clearly under the Federal Trade Commission Act, would run counter to marginal cost pricing, the very concept mandated by § 307(a)(1) of the Act. 12461

HUNTON & WILLIAMS

The Act should thus be amended to clarify that the Commission should be guided by public interest criteria, not merely antitrust or unfair competition principles, in determining what constitutes appropriate conduct in the industry.

(2) Application of the Antitrust Laws

a. Implied Immunity

Section 311 of the Act provides:

"Nothing contained in this Title or the amendments made thereby shall (1) relieve any person or electric utility from the operation or enforcement of the antitrust laws of the United States, including the Sherman Act . . . Clayton Act . . . and the Federal Trade Commission Act . . . or (2) restrict any authority the Commission may have under the Federal Power Act to regulate unfair methods of competition."

Given the absence of express immunity in H. R. 12461, conflicts between regulation and antitrust would normally be avoided by the application of the doctrine of implied immunity, pursuant to which antitrust in appropriate circumstances gives way to the regulatory scheme. Section 311 bears directly on the resolution of such conflicts between Title III of the Act and the antitrust laws and may substantially alter existing legal doctrines in this area.

Supreme Court decisions dealing with implied immunity from the antitrust laws unfortunately do not reveal a precise standard for determining when regulated activities should be

HUNTON & WILLIAMS

immune. Nevertheless, at the risk of oversimplification, legislative intent seems to provide the touchstone for determining whether the antitrust laws should apply to regulated conduct.

Courts are fond of saying, "Repeals of the antitrust laws by implication from a regulatory scheme are strongly disfavored, and have only been found in cases of plain repugnancy between the antitrust and regulatory provisions."* It is presumed, however, in the absence of evidence to the contrary, that the legislature intended the antitrust laws to yield to the regulatory scheme in the event of direct conflict.

Probably the best statement of the repugnancy test is found in Silver v. New York Stock Exchange:**

"The difficult problem here arises from the need to reconcile pursuit of the antitrust aim of eliminating restraints on competition with the effective operation of a public policy contemplating that securities exchanges will engage in self-regulation which may have anticompetitive effects"

* * *

* United States v. Philadelphia National Bank, 374 U.S. 321 (1963).

** 373 U.S. 341 (1963). See also Gordon v. New York Stock Exchange, Inc., 422 U.S. 659 (1975).

HUNTON & WILLIAMS

"[U]nder the aegis of the rule of reason, traditional antitrust concepts are flexible enough to permit the exchange of sufficient breathing space within which to carry out the mandate of the Securities Act Although . . . the statutory scheme of that Act is not sufficiently pervasive to create a total exemption from the antitrust laws . . . , it is also true that particular instances of exchange self-regulation that fall within the scope and purposes of the Securities Exchange Act may be regarded as justified in answer to the assertion of an antitrust claim."*

Thus Silver holds that activity may be immune from antitrust attack to the minimum extent necessary to make the regulatory scheme work as intended by Congress.**

Section 311 is susceptible to two readings. On the one hand, because it might apply only to changes effected by

* Id. at 360-61.

** Implied immunity has sometimes been found when the legislative history of the regulatory statute manifests a legislative intent that provisions of the regulatory scheme should supersede the antitrust laws. See, e.g., Pan American World Airways, Inc. v. United States, 371 U.S. 296 (1963). Conversely, when there is nothing in the legislative history of the regulatory act that reveals a purpose to insulate the regulated companies from the antitrust laws, implied immunity has sometimes been rejected. See, e.g., Otter Tail Power Co. v. United States, 410 U.S. 366, 374 (4-3 vote) (1973).

Also, courts look to the pervasiveness of the regulatory scheme, which is really another index of legislative intent. The notion here seems to be that pervasive regulation of an industry or a particular area implies that Congress intended the regulatory scheme to supersede the antitrust laws. See, e.g., United States v. National Association of Securities Dealers, Inc., 422 U.S. 694 (1975); Maddad v. Crosby Corp., 1973-2 Trade Cas. ¶ 74,841 (D.D.C. 1973).

HUNTON & WILLIAMS

Title III, it would not provide implied immunity with respect to other provisions of the Federal Power Act, particularly the public interest standard. On the other hand, it arguably would provide immunity at least with respect to the provisions in Title III. This result would be a clear reversal of the present law on antitrust immunity, and might well lead to contradictory and overlapping economic regimes. Moreover, and even more importantly, § 311 evidences a congressional intent that the antitrust laws should prevail over regulatory considerations in this context, and this legislative intent might be held controlling even with respect to the rest of the Federal Power Act.

Thus it is possible to argue that § 311, representing a congressional declaration that nothing in Title III may relieve any person or electric utility from the operation or enforcement of the antitrust laws, would require regulatory provisions of Title III and the Federal Power Act to yield to the antitrust laws to the extent of a specific repugnancy between the two. The conflict's potential for absurdity is easily demonstrated.

Suppose that Title III, including § 311, is enacted. A municipal utility applies to the Commission for an order authorizing a contract with electric utility to generate power from

HUNTON & WILLIAMS

another bulk power supply source. The Commission, after a full evidentiary hearing, refuses to order such wheeling, finding that it would result in an undue burden on the utility, would impair the utility's ability to render adequate service to its customers, and is therefore inappropriate in the public interest under the standards of § 202(b) of the Federal Power Act, as amended by Title III. Not satisfied with this determination, however, the municipal system then files an action in federal court under the antitrust laws, seeking to require the contiguous utility to provide wheeling services. After a full trial, the district court determines that a violation of the antitrust laws has occurred and that wheeling is required to remedy the violation. According to one possible reading of § 311, the finding of the Commission would be utterly irrelevant to the proceeding in district court. The court could order wheeling despite the Commission's determination that such wheeling would be contrary to the public interest as contemplated in the Federal Power Act.

To avoid this kind of result, § 311 should be qualified to provide that the antitrust laws apply to the electric utility industry except to the extent of incompatibility or repugnancy between the language or enforcement of the Federal

HUNTON & WILLIAMS

Power Act, as amended by H. R. 12461, on the one hand, and the antitrust laws on the other.

b. Primary Jurisdiction

By precluding implied antitrust immunity with respect to Title III of the Act, § 311 would also preclude application of the doctrine of primary jurisdiction. That doctrine is also designed to accommodate conflicts between a regulatory scheme and the antitrust laws. When such conflicts may possibly arise as a result of an antitrust action, a court may require litigants to resort to the regulatory agency for initial consideration.

In Ricci v. Chicago Mercantile Exchange,* the Supreme Court enunciated three premises for requiring prior resort to a regulatory agency. First, it must be essential for the court to determine whether the regulatory statute or any of its provisions is "incompatible with the maintenance of an anti-trust action." Silver v. New York Stock Exchange, 373 U.S. at 358. Second, some facets of the dispute must be within the statutory jurisdiction of the regulatory agency. Third, adjudication of the dispute by the agency must promise to be of material aid in resolving the immunity question.

* 409 U.S. 289 (1963).

HUNTON & WILLIAMS

Assuming that § 311 precludes any finding of immunity, then the first and third premises for the doctrine of primary jurisdiction will be absent with respect to Title III, making it very unlikely that a court would refer a matter to the Commission for preliminary determination. Again, this would be destructive.

The FPC should be allowed to bring its expertise to bear in an antitrust action that may disrupt the regulatory scheme. Only the Commission is in a position to determine accurately whether the relief sought in the antitrust case will be consistent with the public interest standard set forth in the Federal Power Act.

Although amendment of § 311 as suggested above would probably allow courts to defer antitrust actions to the Commission, it would seem prudent to ensure this result by expressly providing in Title III that the Commission shall have primary jurisdiction in all antitrust actions involving the electric utility industry.

c. Rule of Reason

The best solution to the problem of incompatibility of competition and regulation would be to give the Commission

HUNTON & WILLIAMS

3.

primary jurisdiction to decide questions of implied immunity from the antitrust laws, for the Commission, with its expertise derived from many years of regulating electric utilities, is particularly well suited for the task of defining the interface between the antitrust laws and the federal regulatory plan.

If, however, the Commission is not to be given primary jurisdiction in this field, Congress should at least consider requiring courts, in their application of the antitrust laws to the electric utility industry, to take into consideration under the rule of reason the peculiar economic characteristics of the industry and the unique regulatory policy embodied in the Federal Power Act.

This would require the courts, if not the Commission, to evaluate antitrust charges in light of the public interest standard provided in the Federal Power Act and would preclude application of rigid, conventional per se concepts in the regulated electric utility field. Application of the rule of reason would require that the challenged conduct be weighed in its economic context to determine whether its adverse effect upon competition, if any, is unjustifiably substantial.

Certainly, the rigid per se rule has no place in a highly regulated industry having the peculiar economic

HUNTON & WILLIAMS

characteristics discussed in the earlier portion of this Memorandum. Rather, courts should be required in all cases dealing with electric utilities to consider regulatory goals and the economic context in which the alleged violation occurred. Only in this way can the antitrust laws be applied fairly and consistently with the regulatory policies established in the Federal Power Act.*

III. The Federal Power Commission should be given

Summary of Recommendations

(1) Before enacting those provisions of the Act that would increase competition in the electric utility industry, the Commission should be allowed to undertake and complete a study, as provided in § 310, to determine the extent to which competition in the industry is compatible with public interest.

(2) The term "unfair method of competition," as used in § 307 of the Act, should be defined as anticompetitive conduct inconsistent with the public interest standard contained in the Federal Power Act.

* For a recent case embodying this approach under the Securities Exchange Act, see Jacobi v. Bache & Co., 520 F.2d 1231 (2d Cir. 1975), cert. denied, 96 S. Ct. 784.

(3) Section III of the Act, which provides for a disclaimer of antitrust liability with respect to Title III, should be amended to provide that the antitrust laws apply to the electric utility industry except to the extent of incompatibility or redundancy between the language of the Federal Power Act or enlargement of the Federal Power Act by the Commission, on the one hand, and the antitrust laws on the other.

(4) The Federal Power Commission should be given primary jurisdiction to decide questions of antitrust liability.

(5) If the Federal Power Commission is not to be given primary jurisdiction over antitrust actions against electric utilities, Congress should at least direct the courts, in their application of the antitrust laws to this industry, to avoid any rule of illegality. Further, courts should be required under the rule of reason to take into consideration the economic peculiarities of the industry and the regulatory policy of the Federal Power Act.

April 5, 1919

UNIVERSITY OF FLORIDA



3 1262 09113 8338